YACHTING

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Cook Strait, lying in the Roaring Forties, divides New Zealand in two

A Cruise in the Roaring Forties

An October Passage off the East Coast of New Zealand

By BERKELEY CLARKE

IF YOU look at a map of New Zealand, you will notice that the country extends more than one thousand miles in a N.N.E. to S.S.W. direction. Its climate ranges from sub-tropical in the extreme north to cool temperate in the extreme south. New Zealand, divided by Cook Strait into two islands, lies like a huge breakwater across the path of the great tide wave that rolls completely 'round the globe in the southern latitudes. Between the two islands, in Cook Strait, the tide plays peculiar pranks. The shores of the Strait are very mountainous, and the winds draw through this natural funnel in spasms of unusual violence, unusual squalliness and unusual uncertainty.

In addition, the bottom of Cook Strait is extraordinarily irregular. It has many submarine banks and potholes. One gulch, wide open to the southeast where the tides come from, is 848 fathoms deep, a quarter of a mile wide, with sides which rise precipitously four thousand feet or more to the comparative shallows of eighty fathoms. Imagine, if you can, the sort of boil at the surface when a strong tide hits this bank and bursts its way upward.

Well, I have sailed across Cook Strait more than fifty times in yachts. Many times have I crossed when it has been in its most complaisant mood; I have even been becalmed in it for hours, drifting with the currents; and I have crossed it when the spindrift rose in sheets from its surface, and when the tossing seas in the rips have compelled us, battened down, to dive clean through their green.

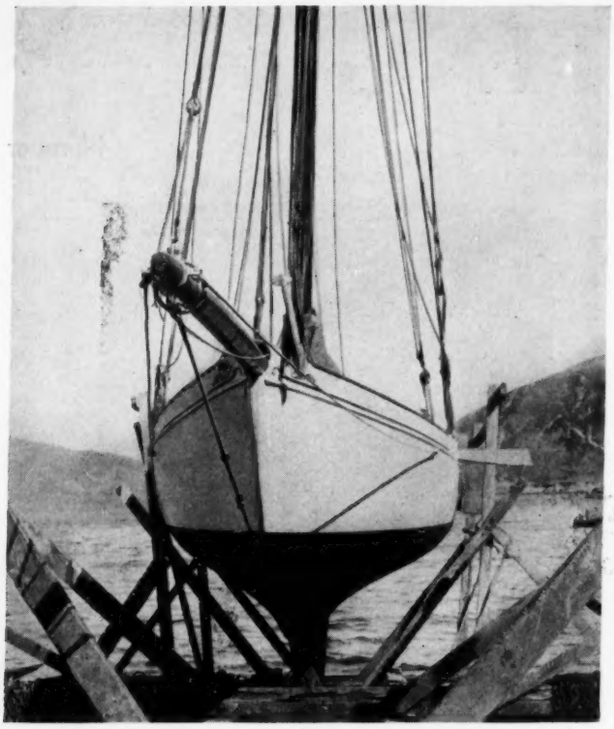
Why, it may occur to the reader, do we sail here? In the blood of many of us the Viking strain is strong, and besides, when old ocean smiles there is something particularly seductive in the smile. And, again, the Marlborough Sounds, Tasman Bay and the islands all about make one of the finest cruising grounds in the world. And this explains why I wanted a yacht and why I went to Auckland and bought one, there being at the time none suitable to be had in Wellington.

Auckland is the principal yachting center in New Zealand. It is a beautiful city, situated upon an excellent harbor, with cruising grounds which extend for hundreds of miles among beautiful islands and along a coast indented with snug and picturesque bays. Wellington is the second port from a yachting point of view.

Now for the yarn. I bought *Marangi* in Auckland. That is a bold statement, but behind it there was much. The moment I first set eyes on her, I fell in love with her. It needed no very experienced yachtsman to see in her lines speed, seaworthiness and ability. Many a yarn I had with the builder, who was also the owner. I remember his saying, "I wanted to build a boat that would do me for the rest of my life, and here she is." He explained how, with even greater care than the builder of the "One Hoss Shay" he had selected the timber for her, seasoned it most carefully, rejecting much, until by a process of elimination perfection of material had been attained. Then he took me home and showed me a table full of trophies she had won for him. That was before the war, and she was not for sale.

However, 1918 brought many changes for her owner and *Marangi* was sold. Of course I bought her, but without a thought as to how I was to get her to Wellington.

But, first, a few statistics. *Marangi* is a cutter, 39 feet



On a draft of 5 feet 4 inches, "Marangi" has an unusually well turned form

6 inches over all; 31 feet on the water line; 9 feet beam, and 5 feet 4 inches draft. The name should have been *Marangai*, but the man who cast the name in the rudder head left out the last "a." The meaning of this Maori word is "storm."

The matter of getting her down to Auckland was not a light one. The steamer route between the cities is 550 miles, and, once the immediate vicinity of Auckland is left behind, there are no snug harbors on the way. There is only the wide Pacific, which frequently and enthusiastically belies its name 'round about New Zealand, so that to all intents and purposes the passage between the two cities obliges one to take an ocean voyage. Particularly is it apt to belie its name during the month of October, in which I proposed to make the trip. October is the windiest month in a windy locality — Wellington is just within the roaring forties. But *Marangi* and my three shipmates were ready to sail in any weather.

In making our preparations for the trip it was quite obvious that there was every chance of our being well out of sight of land at times, so we had to arrange to do a bit of deep sea navigation. Both Jack McLean and I provided ourselves with sextants. With these, and the Nautical Almanac, and Norie's tables, we felt ourselves set up to circumnavigate the globe if necessary. The chronometer was carefully rated and checked by the time signals from the Auckland wharves during the five days which elapsed before sailing.

These days were spent in stowing provisions and preparing gear. Jack had heard that bread hermetically sealed in tins as soon as it came from the oven would remain fresh and in good condition indefinitely. So we secured a dozen loaves packed in this way. However, upon opening the tins at the end of our passage, we found the loaves covered with mildew. This did not prevent our eating the bread, but we had to cut off half an inch of the outside of the loaves all 'round.

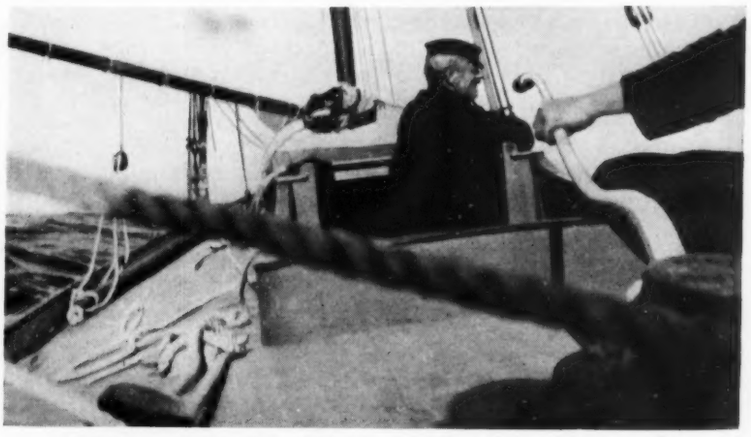
Bully beef in tins, tinned tongues, cheese, jams and tinned fruits were the standbys. We got a fine slab of corned beef to see us over the first day or two. Jack was a teetotaller, and the rest of us were quite indifferent about beer or spirits, so we did not bother to take either. We had, however, plenty of "pure Island lime juice" — good stuff!

The day before we left we spent a glorious sunny afternoon sailing up the coast through Rangitoto Channel. A low, but extremely regular volcanic cone which gives the channel its name rises on the east, and the green rolling downs of the mainland dotted with white bungalows, on the west. Auckland and its environs are very beautiful, green and fresh to the eye. The dark scrub-covered slopes of Rangitoto act as a foil to enhance the general vividness of the landscape. Even the waters of the harbor are green, not blue, as they are in Wellington.

A fresh northeasterly breeze greeted us next morning. We spent the forenoon stowing things, had a good feed ashore at midday, and then dropped moorings for the adventure.

It was not our intention to sail any distance, as the wind was dead in our teeth, but the handy little land-locked harbor of Matiatia on the western end of Waiheke Island, some ten miles away, suggested a good jumping off place, and for this we made. In the Motuihi Channel, between Motuihi Island (the place made famous by von Luckner's escape from it during the war) and Rangitoto, we struck a dirty lop of a sea, wind against tide, and were extremely gratified to note the way *Marangi* behaved. The gear got a good testing in this tideway, with its short and hollow troughs. During the tossing about the starboard topmast shroud jumped out of its prong on the end of the spreaders. We were on the starboard tack at the time and had to go about immediately. Despite a disabled ankle, Mick shinned up the violently pitching mast and seized the shroud in its place in a most workmanlike manner.

As we entered the narrow opening, but half a cable in width, into Matiatia, a number of dogs on the further beach greeted us with joyous barks, as they ran over and around the remains of a number of old scows, which having served their day, were lying abandoned on the shore. The harbor was calm and the rattle of our chain set up an echo in the hills surrounding the peaceful little bay as we anchored. It did not take us long to give our gear a final scrutiny and to fix up the cockpit lockers, and that night we had a good square feed at the cabin table, the last to be partaken in this manner for



While crossing the Bay of Plenty, Jack kept his eye on the weather

some days. Turning in early, we looked forward expectantly to the morrow.

At five o'clock we were astir. The weather could not have been more perfect if we had ordered it. The harbor was like glass; the wash of a slight swell from the entrance was the only sound, and the deck was drenched with dew. We hove up the anchor, and as Jack stowed it below he remarked, "We won't want you again for a while." On making sail there was hardly enough wind to give us steerageway, and while drifting slowly towards the entrance we got a steaming mug of coffee apiece and several substantial corned beef sandwiches.

We had hardly cleared the entrance and opened up a view of the distant city when a light blue line of breeze made its appearance in the west, just below the green hills covered with white suburban houses. The blue line reached us shortly from right aft; we gave her the main sheet, and a pleasant noise soon came from under *Marangi's* forefoot as we gained speed in the freshening breeze. Sinister reefs lay to right and left of our course a few miles ahead; they showed purple patches in the blue sea, but with these astern we felt we were fairly off.

The islands grouped 'round Auckland harbor grew bluer in the distance and the striking hills of Coromandel Peninsula, with their great patches of forest, grew plainer as we neared Cape Colville, the northern extremity of the peninsula and the southern portal of the eastern entrance to the Hauraki Gulf. Details of the Great Barrier Island began to make themselves plain in the clear air, until at noon we were abeam of a remarkable sugarloaf rock rising a couple of hundred feet sheer out of the sea, with a striking looking pillar about sixty feet high at its western foot. On the top of the rock — and the Lord knows how they got it there — is the white dot of a lighthouse. The charts call this rock Channel Island, standing, as it does, just within the eastern channel between the gulf and the open ocean, but its colloquial name is a more happy one — "the Watchman."

As we approached the Watchman, we had lunch, and then altered our course eastward to go through the nine-mile wide channel to which I have referred, between Cape Colville on the mainland side and Cape Barrier, the southern point of Great Barrier Island. Heavy tide rips exist about Cape Colville, so we gave the point a wide berth, although we were not too far away to notice the huge pyramidal rocks lying detached at its base. The cape itself rises abruptly to a height of two thousand feet.

"Marangi's" racing rig made her fast in light weather. She won shelves of trophies for her owner

Passing Cuvier Island at half past three, a course was laid to Lottin Point, one hundred and sixty miles away across the great Bay of Plenty. An hour and a half later, with the sinking sun throwing a ruddy glow over the heaving sea, we hove to, put in two reefs in the mainsail and changed our working jib for a small one. Mercury Islands were broad on our starboard beam, to windward distant about six miles, the nearest, Red Mercury, redder than usual in the setting sun; and a business-like sea began to get up out of the deep bight of the bay.

The galley forward was beginning to get quite lively in consequence, but, we managed to get the kettle boiled and had a mug of hot coffee apiece. This, with a few hunks of bread and butter with slices of corned beef, constituted our meal.

The wind was just about on our starboard beam. *Marangi* made great weather of it and tore through the seas. The watch below turned in. I took the tiller during the second dog watch, and now began the finest sail I have ever had in my life, all things considered. From my seat on the weather side of the cockpit I could see into the cozy cabin where the dim light shed by the cabin lamp just enabled me to distinguish the sleeping forms of my companions. Between was the brilliantly lit compass card striking the high note in the scheme.

Eight o'clock came too soon, and I handed over to Mick, went below, turned in and dropped off to sleep to the music of the water rushing along the yacht's sides. I was called again by Jack to relieve him at two in the morning, and put on plenty of warm clothes, for there was a nip in the southerly wind. *Marangi* was still tearing through it, the wind in identically the same quarter and a few dollops of spray coming aboard. The sheet had not been touched since we reefed. In a few moments the sleep left my eyes, Jack handed me the tiller and he slipped below and into the warm bunk I had just vacated.

Again my trick was a delight — every minute of it. In the darkness, which always increases the illusion of great speed, we appeared to be traveling like a destroyer. As she sheered through the seas, which seemed to come mysteriously out of the darkness to weather and to disappear as mysteriously to leeward, she threw great bursts of white foam from either bow. Dark clouds, with infrequent gaps through which the stars fitfully peered, hurried over the sky and only by taking one's eye off the bright compass card for some time could the horizon be distinguished, sea and sky being so much alike in shade.

Shrouds and stays hummed a lively tune in the hard wind and I whistled a tune to keep them company. I lived every minute and thanked God for the wind and the sea and that I was far away from all the anxieties and frets, the trials and tribulations of life ashore.

I was enjoying myself so much that I carried on well into the "gravy eye" watch, until the light came in, and the east grew gray; until the horizon made itself apparent, and the white-capped seas began to lose the mystery of their origin and their disappearance; then I handed over to Mick again.

A little over an hour later I was on deck again. The sun had just risen. About ten miles away, on our starboard quarter, an island with a cloud of steam over it appeared — White Island, an active volcano. The early level rays of the sun made the steam appear pink at first but it soon changed to white. Ahead, on our starboard bow, was a bold range of mountains dark with forests, and a point was just discernible about ten miles from us and near the northern extremity of the land. We made this out to be Cape Runaway. The breeze was taking off rapidly but in the twelve hours since we reefed we had traveled 110 miles — great sailing — an average of about nine knots.

After breakfast we shook out the reefs, set the working jib, and sailed pleasantly eastward along a cliffy coast backed by high hills covered with forest. Lighter and lighter fell the breeze, until off Lottin Point it left us altogether. The sky was cloudless and a long glassy swell — the breathing of the great Pacific Ocean — came lazily in from the northeast. In calm or storm, year in and year out, this great swell crashes unceasingly on this rocky coast. Over the side, below the glassy surface, as we gently rose and fell, the sunlight sank deep into the clear blue water in long shafts converging at infinity — miles, it seemed, below our keel.

Evening overtook us with the same glassy calm and the setting sun made a great undulating golden track across the heaving sea. John and I discussed the probabilities of the weather "around the corner." Beyond the East Cape it is apt to be very different from the Bay of Plenty. The discussion finished for lack of a conclusion, and I drowsed my way through the whole of the first watch, then handed over to John and went below. It was hard to sleep with the mainsail slatting about in the calm, although, during the day we had lashed the main sheet block amidships on the horse in an effort to stop the nerve racking row. However, half an hour after I had gone below, I felt a slight air fan my cheek from the companionway, the sails went to sleep and a pleasant little gurgle made itself heard under the yacht's forefoot.

The mountains of New Zealand rise abruptly out of the Pacific

I awoke to the rattle of blocks. Jack was indulging in some activity on deck.

"What's up," I cried, "Have you made East Island?"

"Just about," replied John, "Nice little breeze, and am squaring away for the run down the coast."

I fell asleep again instantly, to be awakened about 3.30 A.M. with a stumbling, jerking motion, and asked Jack what was up.

"We are in a rip," he replied, "It's the Ranfurly Bank, and by the look of the lighthouse we're sliding along."

I got on deck a little after four o'clock in the exhilarating freshness of the dawn. We were bowling along in great style — wind from the northeast. A very heavy bank of clouds low down on the horizon extended from east 'round to north. The rising sun gilded the edge of this cloud bank in a most beautiful manner and spread a great fan of golden shafts from it right to the zenith.

"What do you make of that bank, Clarkie?" asked Jack.

"Seems to me we're in for a dirty time shortly. That's a black nor'easter bearing down," I ventured.

"I think so too," agreed Jack.

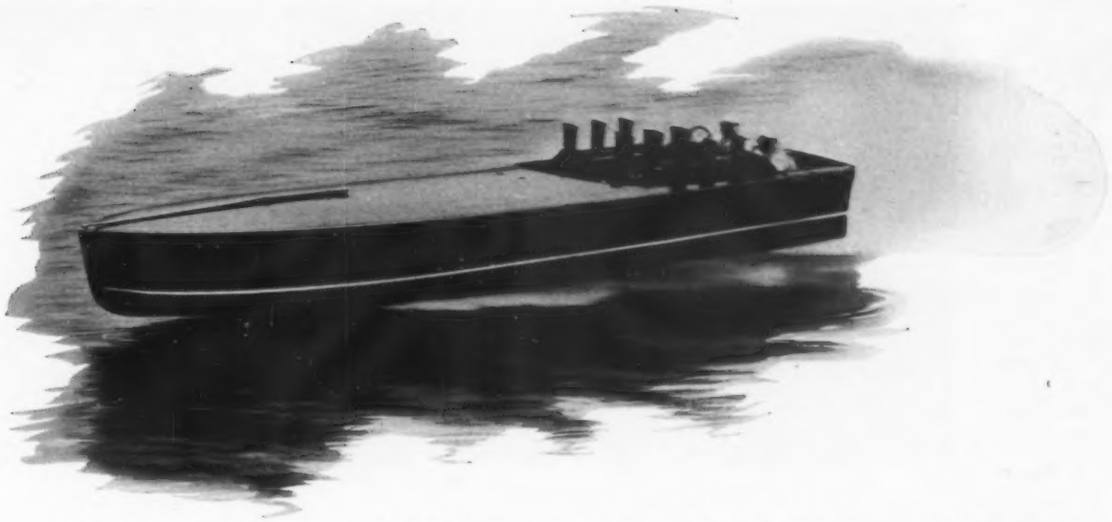
The black cloud rose very slowly, and, with the increasing breeze, we tore south past a succession of beautiful bays, with sandy beaches backed by the high forest clad hills, the highest summit of which — Mount Ikurangi — rises nearly six thousand feet above the sea.

At noon we noticed ashore "a glaring triangular face, resembling the white-washed gable end of a house." This was named, very obviously, "Gable End Foreland," by Captain Cook. Its particular interest to us was that it marked the half-way point of the passage to Wellington. Other yachts had made the passage, but, as far as we knew we were the smallest to tackle the direct trip, and it appeared at this point as if we had an excellent chance to make a record yacht passage. But as you will see, there was much to come.

The wind was increasing rapidly and very foolishly I did not take my rest in my watch below. This coast had associations for me which kept me on deck. It was 'round about here, out of the port of Gisborne that I had spent my boyhood sailing days. I was anxious to see that we gave a good berth to the dangerous Ariel Reef south of Gable End Foreland.

Passing Poverty Bay, the northeaster came down with considerable weight but the going was so splendid that we hung on to our full sail until about sunset. It was obvious that we could not continue to carry on long, so we hove to, took off the jib, lowered the mainsail, and set the storm trysail.

(To be Continued)



"Miss America IX" is an example of the single-step hydroplane carried to its highest point of development

Is A New Type of Hydroplane Coming?

By HENRY CLAY FOSTER

FOR over a decade we have come to accept the single-step hydroplane as the fastest underbody design possible for a motor boat, and many of us have tacitly regarded it as the ultimate in this line of progress. But is it? If it is, what an uninteresting future awaits motor boat racing! The development which has come from these contests in past seasons and decades, is at an end! Not by a jugful.

Let us glance over the field of racing motor boats and see if the single-step hydroplane is absolutely supreme. Let us talk with a few of the foremost designers and compare their opinions. These opinions differ, thank heaven, and out of these differences of opinion come experimental boats from time to time which shatter old theories, establish new ones, and develop features which sooner or later appear in modified form in the stock motor boats of succeeding seasons.

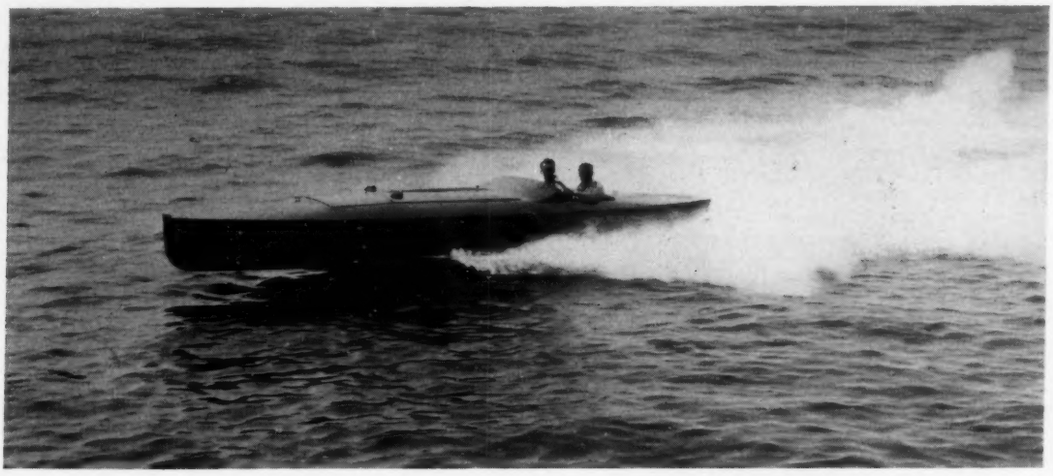
As a matter of fact, all appearances indicate that we are either in the early stages of, or approaching a period of transition to some new design or variation of known designs today, which will increase the efficiency of the fast motor boat in excess of anything in the past or immediate future. This sounds like a broad statement. Perhaps it is tinged with optimism. And certainly some of those most closely engaged in bringing this about will be unable to get such a perspective on it. But it is substantiated by too much tangible evidence to be merely the dream of a bystander.

The problem in motor boat design is, of course, to increase the lift and decrease the drag of the underbody in speed. The true model or displacement hull has practically all of its underbody surface in contact with the water and considerable drag is inevitable. The hydroplane, or step boat, has a reduced area in contact with the water and more lifting surface in the underbody area. In speed, the hydroplane thus gets up on top of the water as the displacement hull cannot. Some of the surface which would develop drag is cut away and it is supposed to get a certain amount of lift from the air that is there instead of water.

It is known that the lift is at the point of impact and the drag is greatest where the water is deflected as the boat passes over it. But by cutting away planes and keeping the active parts of the underbody surface, the designer manages to increase the efficiency of the boat.

When W. H. Feuber brought out the hydroplane, his designs were all multi-step in type. For years he experimented and made progress which astonished the world, as everybody knows. And throughout his life he firmly believed that the multi-step hydroplane design was the faster, although when designers everywhere got to turning out step boats for racing purposes, the single-step type as developed by Chris Smith of Algonac, Michigan, took precedence. The arbitrament of the race course seemed to decide in favor of it. Who will forget the memorable line of racing hydroplanes which came out of Detroit in those early days of the hydroplane? And most of them were Chris Smith designs.

The *Miss America's*, defenders of the British International Trophy, have all been single-step hydroplanes and the success of these boats has had much to do with the single-step design being regarded as the fastest of all possible variations of the step idea. Gar Wood himself, asked why he pins his faith in this design exclusively, replied: "We believe that the single-step hydroplane breaks up the surface of the water least and creates less resistance than any multi-step boat of equal specifications." This is in line with the known conservatism of the speed king, who has steadfastly eschewed radical designs of all kinds, including motor installations and accessories, to which the average speed fan is addicted. His adherence to the type of boat which brought him his first victories and with which he has been consistently successful, is not to be wondered at, and his opinion deserves respect in any circle. It is known that Wood's knowledge comes from the actual building of fast boats, and it is doubtful if he or his associates ever pull a model in a test tank. They represent the extreme in practical design, although other men have been successfully guided by carefully controlled tank experiments. And yet the Gar Wood boats, both the racing and displacement stock models, are fine examples of careful



"Hotsy-Totsy," rebuilt last season into a multi-step hydroplane, proved better than "Imp II," a single-step hydro

balance of weights and other factors vital to efficiency and performance.

One cannot discuss motor boat design long without referring to the Gold Cup boats of various seasons and under the different rules which have governed this classic contest. The name of *Baby Bootlegger* stands out as one of the great boats in the displacement models of the period between 1922 and 1928. This boat was longer and heavier than many of her rivals, and yet she was remarkably fast and able. She was supposed to be streamlined and a lot of bystanders discoursed sagely on the lowered wind resistance thus obtained and attributed much to this feature.

As a matter of fact, the streamlined feature of *Baby Bootlegger* was all camouflage of a wily designer who had something else in mind. He knew that far more than any wind resistance he was confronted with the age-old problem of the water itself. He wanted to reduce the drag on the bottom of the boat by the column of water being forced aft by the propeller. This movement which starts, of course, at the propeller, develops in the water forward of the revolving screw as it draws water backward, thus creating a suction on the hull itself. The well designed single-step hydroplane would have the propeller so placed that the greatest suction would come on the air cushion immediately abaft the step, but Crouch was designing a displacement hull in which he could place no step. The next thing to do was to get the propeller far enough aft so that this suction center would be abaft the stern transom itself. For this reason he streamlined the boat and about thirty inches back of the stern transom he placed the rudder post and propeller, under the long, pointed overhang. It worked. And he has only admitted the trick recently.

"Miss Rioco III," a three-step hydroplane by Hacker, proved most successful

When the boating fraternity first heard that *Hotsy-Totsy*, the Purdy-designed displacement Gold Cup boat of former seasons, had been rebuilt into a multi-step hydroplane, a lot of folk wondered at such apparent madness. Multi-step hydroplanes? Yes, there were a few here and there — but somehow everybody thought of hydroplanes as being single and transverse step models for the most part.

And what happened? *Hotsy-Totsy* proved to be a better all-around racing hydroplane than her distinguished companion, *Imp II*, a single-step hydroplane. Here is what the designer of these two famous but different boats says of the relative qualities of the single and multi-step designs out of long and successful experience:

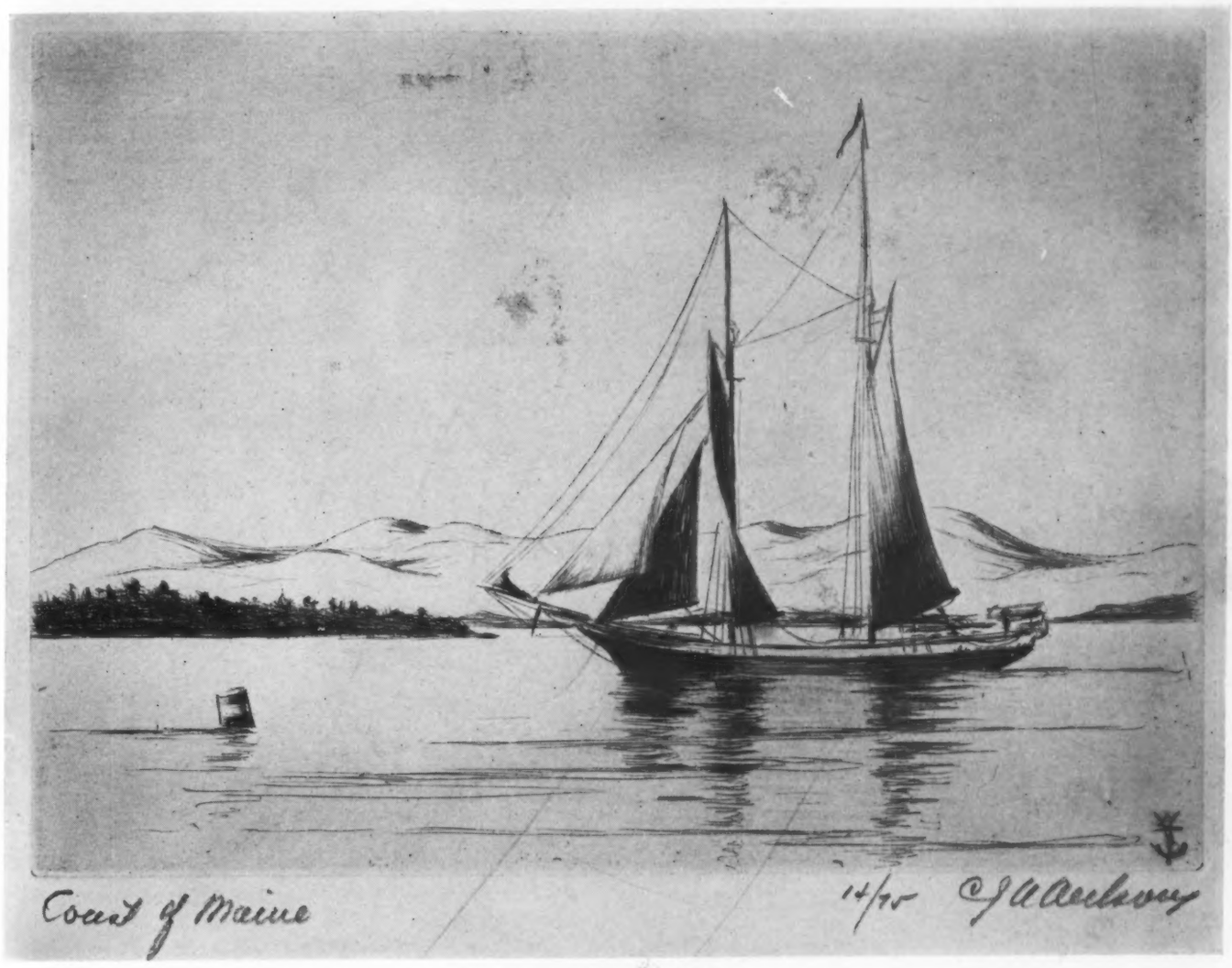
"The single-step hydroplane is without a doubt faster with a given power and weight than the multi-step hull when running on water with just the proper surface ripple to minimize skin friction, and not great enough to throw the boat from a level running form. Under all other conditions the multi-step is superior for the following reasons: The steps being closer together need not be so deep, which does not weaken the hull as with the single deep step amidships.

"It is much better in rough water, as the boat has bearing practically the entire length of hull and is not easily thrown out of running form.

"The steadiness is most noticeable in a following sea of some size. The single-step hull at a high rate of speed will run her step over the crest clear of the water and drop suddenly in the trough, having lost all buoyancy and stability other than the after plane. The multi-step hull under the same conditions will not drop suddenly; having a nearly continuous bearing, she does not break contact with the water so readily and apparently cushions herself when coming in contact again."

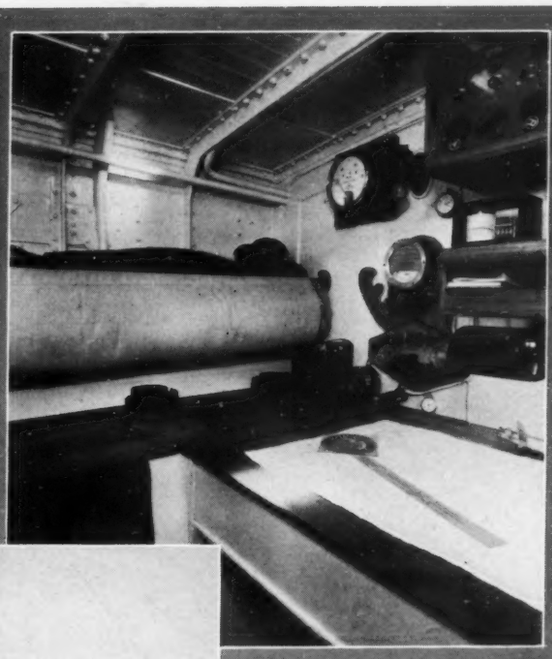
Hotsy-Totsy made such a showing that we all began to notice multi-step boats more closely. There had been *Miss Los Angeles*, the Hacker-designed Gold Cup challenger of the previous year, which had not fared so well as have other multi-step boats by the same designer. *Miss Los Angeles* was a two-step hydroplane and there are those who believe she could have been developed into championship form under other conditions than those she encountered. And Sam Dunsford's *Scotty* had three steps and now has a fourth. In 1929, it will be re-

(Continued on page 96)



OFF THE MAINE COAST

From an etching by C. J. A. Wilson



The Ketch "Landfall"

Built by Paul Hammond for the Transatlantic Race From Designs by L. Francis Herreshoff

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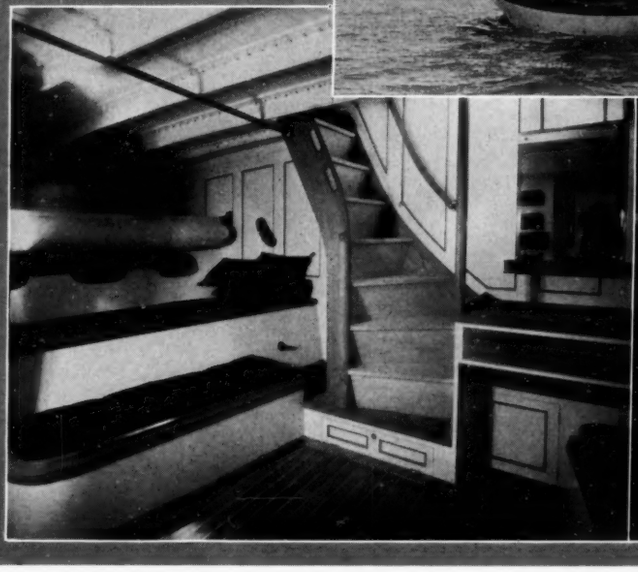
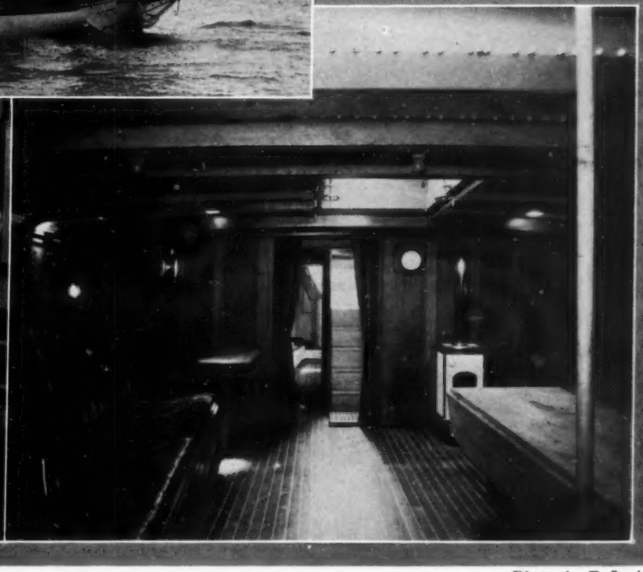
She is 71 feet long over all, and will be the largest yacht in the race

"Landfall" embodies the experience of her owner in many ocean races. She is admirably laid out below and on deck, as the photographs show. Top, left: Looking aft, showing tiller and horizontal steering wheel on deckhouse. Right: Chartroom. Bottom, left: After stateroom; right, main cabin





Photos by E. Levick

The Probable Course of the Transatlantic Racers

Selecting a Course on the Basis of Past Experience and Pilot Charts

By CARL L. WEAGANT

THERE has been considerable speculation concerning the probable course that will be taken by the fleet of nine or ten trim ocean racers leaving Newport on the Fourth of July to start driving their way across the North Atlantic toward Plymouth, England. Probably no other race presents as many possible courses as this Transatlantic grind to England, and in choosing a course the race may be won or lost.

Suppose we "dope" out the possibilities, attempt a conclusion, and then see how it checks with the actual tracks when they are disclosed at the end of the race in August.

Racing across the Atlantic is not entirely a matter of sailing the shortest distance between two points. Nevertheless, the shortest distance has been considered. The short course would approximate the same great circle track taken by Lindbergh and would be some 200 miles shorter than the southern route in the Gulf Stream. It would mean sailing out through Pollock Rip, across the Gulf of Maine, down the coast of Nova Scotia, around Cape Race, Newfoundland, and eastward above the fiftieth parallel to Bishop's Rock, the western outpost of the Scilly Islands, and England. The distance from Newport to Plymouth via this course is 2790 miles. On the other hand, there is the southern course which leads southeast from Newport, passes Nantucket Lightship, continuing southeast to the fortieth parallel, where it turns eastward for 800 miles before swinging north into a great circle course towards Bishop's Rock. The mileage along this track is 2985 miles to Plymouth, or 195 miles greater than the northern course. Between these extremes, which lie more than 500 miles apart in mid-Atlantic, there are countless combinations of tracks, each subject to different conditions of wind and current.

What the conditions of wind and current will be on the North Atlantic in July cannot be predetermined exactly, but the weather during the past fifty years has been recorded and compiled by the Hydrographic Office and published on Pilot Charts, or wind charts. Pilot Charts are well known to ocean racing yachtsmen, and a great deal of midnight oil has been burned over them this spring by the crews of Transatlantic racers. From these charts expected wind, fog, ice and current conditions can be forecast to a fair degree of accuracy. However, the Western Ocean is too temperamental to permit of precise analysis and, therefore, the element of uncertainty fortunately remains to be solved by the study and judgment of the crews.

Suppose we take the short northern course and go out through Pollock Rip. A great circle from the Rip to Bishop's Rock would cut inside Cape Race, so the water route must be divided into two great circle courses meeting off Cape Race. However, the divided course is so close to the true great circle that it may be called by the same name. Following it across the Gulf of Maine, we would find the wind subject to unsettled land conditions and the adverse set of the Arctic Current would be felt, possibly as much as 25 miles per day. Off the coast of Nova Scotia we might expect stronger winds than on the southern course, but not as certain. At the same time we would be running into a region which the Pilot Chart indicates enveloped in fog for fifty per cent of the time. This fog area lies across 1000 miles of the northern course. Off Cape Race the Pilot Chart shows a calm area in the region between the Arctic Current and the Gulf Stream, known as the Cold Wall. *Carlsark* was becalmed two days in this area on her way from Nova Scotia to the Azores, so I am quite certain it is there. Continuing, the Arctic Current would be driving us backward until we were two or three hundred miles clear of Cape Race. This first thousand miles just covered is entirely over submerged banks, with consequent confusion of seas so hard on a small boat. It is also along the track followed by storm centers. Although the Pilot Chart indicates that the probability of winds of gale force on the North Atlantic in July is but one day in twenty-five, if a gale develops it would hit the northern course much harder.

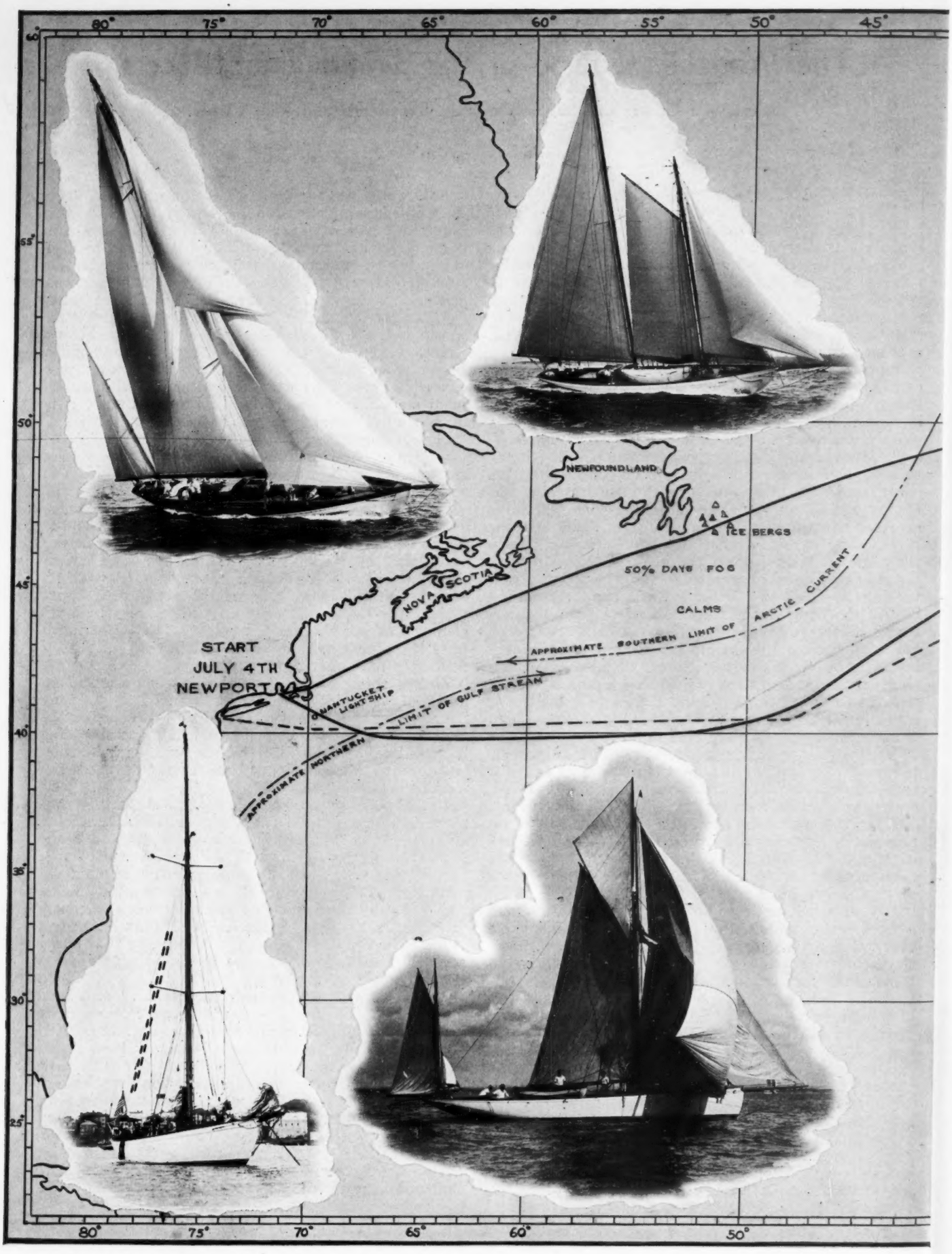
So far, the great circle course seems a poor choice, but, once clear of Cape Race and the Grand Banks, the run to England should be made in fast time before the same hard, quartering breeze that drove "Bill" Nutting's little *Typhoon* across in fifteen days. Then, if an easterly should blow, and nearly every small boat making the eastward passage has met with it, a boat coming in from the north would be farther removed from it, coming as it does out of the Bay of Biscay across the path of the southern track.

Maybe someone will take the long chance and go north. If it should blow clear from the northwest they might make a faster passage than a boat following the Gulf Stream, but the chances are small and the going hard and more uncertain. It will be interesting if someone does try this course, but I think the entire fleet will follow the Gulf Stream and go south.

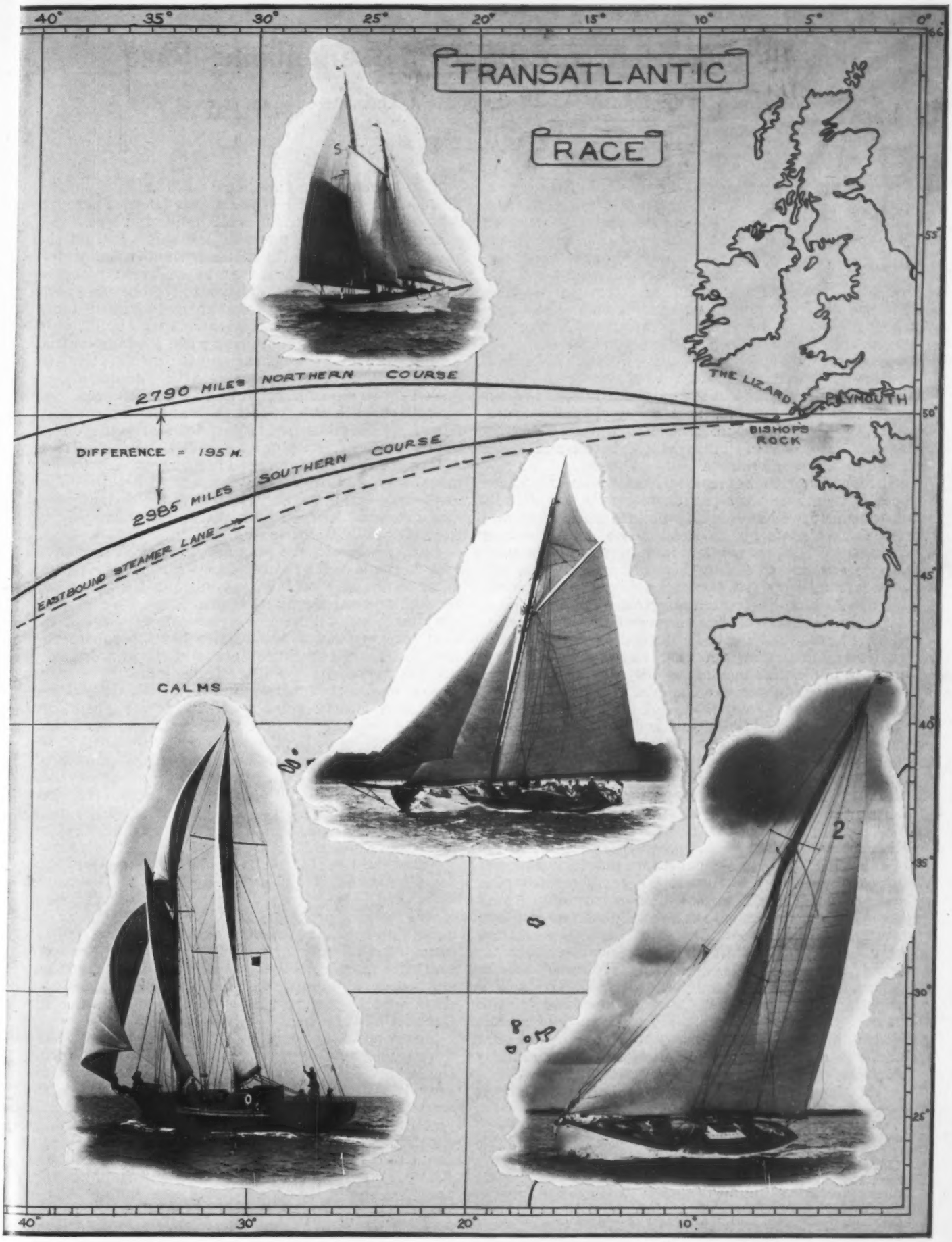
But how far south should a boat go when it is considered that every mile sailed south must be run north again? In the Transatlantic Race of 1905, *Atlantic* started by sailing south to 39° 40′ and into the Stream the first day out. Then she came gradually north along forty, finally shaping course to the north after passing south of the Grand Banks. Her course was apparently faultless. In the Spanish Race of 1928 both *Elena* and *Atlantic* tacked down wind as far south as the thirty-seventh parallel, to find no greater drift than *Guinevere* one hundred miles above them and sailing close to forty. While the slower *Guinevere* continued eastward in a 100-mile band just above forty, *Atlantic* sailed more than a hundred miles farther north of her. In spite of *Atlantic's* greater speed, they reached the coast of Spain virtually together, all of which indicates that the most favorable current flows nearly along the fortieth parallel for the first 1500 miles. However, to follow forty for 1500 miles would run a boat into danger of being becalmed north of the Azores. Likewise, *Pinta*, in the small class of this same race, steered an average course about ten miles above the fortieth parallel to find considerably more set than *Mohawk* and *Niña*, less than fifty miles north of her course.

It appears, therefore, that the Stream does not flow appreciably faster south of forty, but that there is

(Continued on page 118)



The starters in the Transatlantic Race. Top, left to right: "Dorade," Olin Stephens, and "Water Gypsy," William McMillan. Bottom: "Highland Light," Dudley Wolfe, and "Ilex," Dennis Hunt



Top: "Amberjack II," Paul D. Rust, Jr. Bottom: "Mistress," George Roosevelt, "Skïl," Richard F. Lawrence, and "Maitenes," W. B. Luard

A Post Mortem on the Last Transatlantic Race

A Summary of the Courses Sailed and Conditions Encountered in the Race of 1928

By L. M. LOMBARD

UCH has been written about the Spanish race and the battle of Marconi against gaff rig. The courses and days' runs of the three small yachts have been plotted and analyzed, generalizations made and certain conclusions drawn.

The conclusions seem to be that *Mohawk* and *Pinta* were faster running before the wind, whereas *Niña* was better to windward, and so won the race in those last ten days of easterly winds.

There can be no doubt but that two weeks of racing saw the *Pinta* well in the lead, with *Mohawk* second, and that it was during the last ten days of driving into head winds that *Niña* overtook both her rivals and won the race. A study of the courses seems to indicate that during this easterly *Niña* both pointed better and sailed faster than the other boats.

In his article in the September, 1929, *Sportsman*, Alfred Loomis mentions with pardonable pride the *Pinta's* record run of two hundred fifty-three miles in a day, and the *Mohawk's* two hundred thirty-two, while the best *Niña* could show was two hundred fourteen. To be sure, he gives credit to the Gulf Stream for assistance, but a casual reader receives the impression that both *Pinta* and *Mohawk* were faster running free.

And in YACHTING of the same month Western Martyr, who vied with the King to be the first to board *Niña* as we dropped anchor in Santander, and who passed many hours in our cabins picking up the race gossip at first hand, apparently assumes that the gaff rig boats outfooted us before the wind.

Were these conclusions justified, that off the wind and running free *Pinta* and *Mohawk* were both faster than *Niña?* Having marveled at the ease with which *Niña's* hull slipped through the water, I was unconvinced, so out came the navigation notebook and I did a little figuring.

The morning after *Pinta's* arrival in Santander the three navigators had a real "post mortem" in the cabin of the *Niña*. In spite of Spanish hospitality we almost forgot to go ashore for lunch. We compared our runs and exchanged our noon positions day by day. Alfred Loomis asked our longest run and I gave two hundred fourteen. George Woodward's turn came next and he gave two hundred thirty-two for *Mohawk*. Then we asked *Pinta's* — "two hundred fifty-three" spoke Alfred, and George and I both groaned. I mumbled something to the effect that it was a low-down trick to have asked me first. But Alfred rose and said he had already been doubted too many times by his own crew and demanded that we check his figures, thus promptly silencing our groans.

The days' runs by observations show the distance between noon positions measured on the earth's surface. This may or may not be the distance traveled through the water, and only if it is can it properly be used as a measure of the vessel's speed. The ship's log, on the other hand, measures the distance through the water, and if the log is accurate it must be a correct measure of the vessel's speed. So, in addition to the observed positions, I obtained from the other navigators the distance logged each day. Comparing these with the distance covered by observation on days when we were beyond the influence of any ocean currents satisfied me that the logs of all three boats were substantially accurate.

Now let us see what the respective logs showed.

On the twelfth of July, with the wind fresh southwest, *Niña* logged two hundred three miles, and on the following day, two hundred fourteen. On the same two days *Mohawk*, out of sight over the horizon but only twenty miles away, was logging knot for knot with us the entire forty-eight hours. And on these days the distance covered between observed positions was practically identical with the distance logged.

True, *Pinta* won the prize for the longest day's run with her wonderful record of two hundred fifty-three miles on the fifth of July, but on that day she logged through the water only one hundred ninety miles, the sixty-three miles difference representing the set of the Gulf Stream. And *Mohawk*, with her fine run of two hundred thirty-two miles on the sixth, recorded only one hundred eighty-five miles on her log.

So it was on the fourteenth of July, with *Mohawk* and *Niña* only twenty miles apart and *Pinta* about one hundred miles ahead, that all three boats logged their greatest distances. In a fresh sou'wester that had blown steadily for days, unconscious of their rivals' proximity, but crowding on all the canvas they could carry, the three boats raced blindly on. *Pinta* logged two hundred nine miles as against two hundred fourteen by both *Mohawk* and *Niña*, and who would suggest that all three boats were not giving their best?

From the twelfth to the seventeenth, for five long days, *Niña* and *Mohawk* raced neck and neck — never more than twenty-five miles apart but never conscious of the other's proximity and with *Pinta* out ahead maintaining her lead gained through the greater set from the Gulf Stream resulting from taking a more southerly course. All this time the weather was so clear and steady we thought we must be in the Trades, so I think we may assume that conditions were about the same for all three boats.

To my mind there are three conclusions we may safely draw from a study of the courses. The first is that during the last few days of June and the first few of July, in the year 1928, the Gulf Stream set was stronger on the fortieth parallel of latitude than farther to the north. Another time conditions might be different, but the experience of *Pinta* and *Mohawk* are enough so that in the next Spanish race I think I'll go south and follow Alfred Loomis at the start. Secondly, I am satisfied that *Niña* is faster on the wind than either *Pinta* or *Mohawk* and, last, in a race to Spain, with the prospect of an Autanblanc, never let yourself be blown below Cape Finisterre.

On the selection of the course to be followed and the conditions met with, once the momentous decision as to the choice of a northern or more southerly course has been made, much will depend. This selection of a course may mean the winning or losing of the race. Therefore, the following analysis of the courses sailed by the three contestants in the race to Spain in 1928, which was won by *Niña*, should prove of some value to the contestants in this year's event. It was written by the navigator of *Niña* shortly after the race, not with any thought of publication. We are indebted to Mr. Lombard for permission to publish it herewith. — *Editor.*

Big Game Fishing For Yachtsmen

Recent Developments Have Made It Possible to Take Fish Up to One Thousand Pounds

+ + +

By H. W. MAJOR

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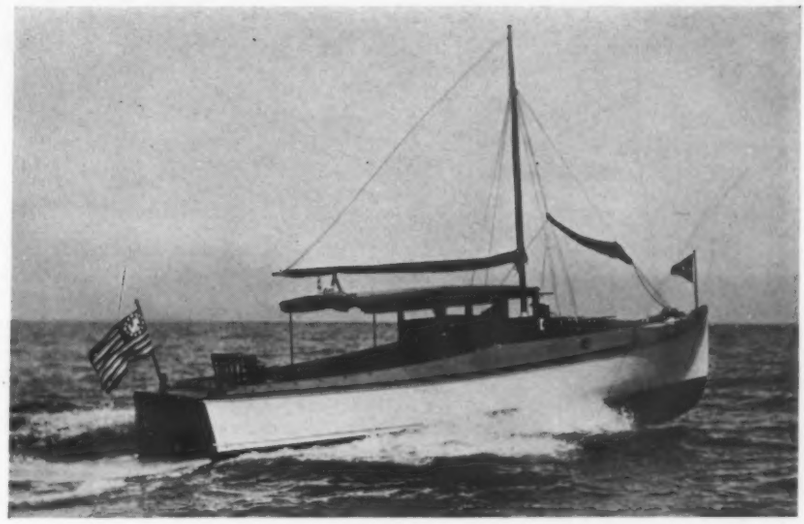


A 38-foot fisherman model by the Matthews Company

FOR thousands of years fish have been taken from the sea for food, but big game fishing as a sport is comparatively new. Probably the first pronounced step in this direction was taken in 1898, when Dr. Charles F. Holder founded the Tuna Club, of Catalina. To Dr. Holder and such men as Arthur Jerome Eddy, Thomas McD. Potter, L. P. Streeter and James W. Jump must be given a great deal of the credit for the development of salt water fishing as a sport. Mr. Eddy founded the Catalina Light Tackle Club; Mr. Potter originated three-six tackle, the lightest and sportiest of all regulation salt water tackle; L. P. Streeter was an instigator of light tackle; to Mr. Jump must be given the credit of being the outstanding light tackle fisherman of all time. He has broken several records, which include light tackle marlin swordfish, light tackle tuna, three-six tackle tuna, and he is the only man who has ever taken a broad-billed swordfish on light tackle. During the past thirty-odd years these pioneers have developed a simple quest for food into one of the leading outdoor sports of the day.

A big tuna taken near Montauk Point, for the market. The fish weighed 800 pounds

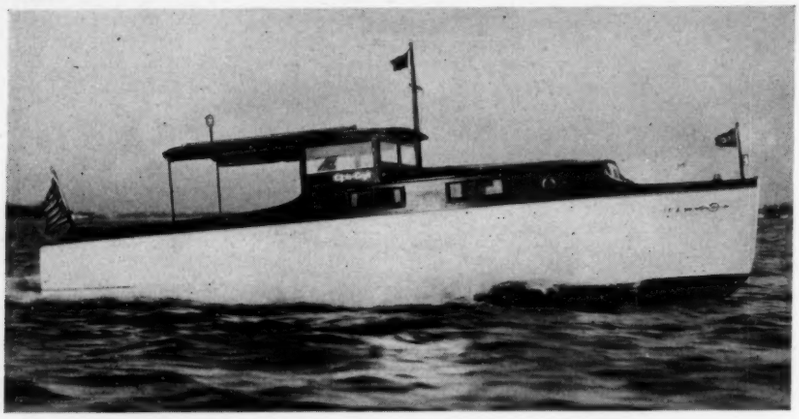
This evolution from hand line methods to the present manner of big game fishing has brought about many changes. Now, we find not only the humble fisherman who is earning his living or seeking food, but also our presidents and leaders of finance and industry who take their fishing far more seriously than those who make a living by it. The owners of many of our finest yachts consider it the correct thing to carry a completely equipped fishing boat on board. This may be purely for the convenience of the guests.

Another change which necessarily followed was in the tackle. Instead of the hand line, we see modern fishing rods which have taken nearly two years of painstaking manufacture in order that they may be sensitively balanced to exactly the correct action. Today, reels are built with almost the precision of watches and are equipped with friction drags and other helpful devices. The reels are large enough to hold five hundred yards of the finest linen line.

The early pioneers were quick to see that several classes of tackle were needed, not only as a matter of sportsmanship, but to make the catch equally difficult for both large and small fish. Three classes of tackle were developed, namely, heavy, light and three-six. Heavy tackle consists, briefly, of a rod consisting of butt and tip, the tip not weighing over sixteen ounces. The line for heavy tackle is a 24-thread, testing not over 66 pounds. For light tackle, a tip weighing six ounces is used, and a nine-thread line testing 26 pounds. In three-six tackle, the entire rod is weighed and must stay within the six-ounce limit. The line is six-thread, testing sixteen pounds. These specifications, although originating at the Catalina Tuna Club, are now very closely followed by fishermen in many parts of the world.

The largest fish ever caught on regulation heavy tackle was a broad-billed swordfish weighing 573 pounds. This record, which was made by George C. Thomas III, passed the former record, held by G. A. Gillespie, by two pounds. These catches are considered very close to the limit for that class of tackle.

For larger fish than are found in Catalina waters, heavier tackle is warranted. This is usually termed heavy duty tackle, in which a 20- or 22-ounce rod



The Chris-Craft 36-foot cruiser is designed for fishing purposes

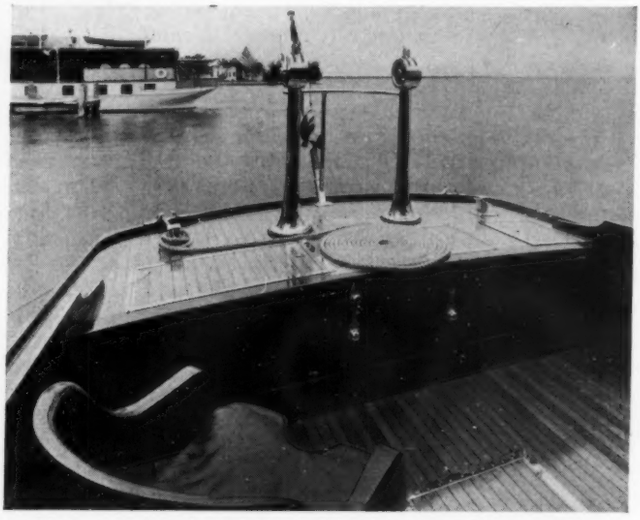
tip is used, with a 39-thread line. This line will test from 85 to 107 pounds, depending on the make.

This intricate equipment may seem to give the fisherman too much advantage. Such is not the case, but it does make it possible to take larger fish if the fisherman has the corresponding skill. It must be remembered that in 1898, when Dr. Holder took a tuna weighing 183 pounds with rod and reel, it was such an unprecedented feat and aroused so much enthusiasm that it resulted in the forming of the now famous Tuna Club. His catch was remarkable in its day, especially considering the tackle available. Today, with modern equipment, the limit is much higher. So far, the two largest fish taken with rod and reel are a marlin swordfish weighing 1040 pounds, by Zane Grey, and Captain L. D. Mitchell's black marlin of 976 pounds. These larger catches have been made possible by better tackle and equipment and more skill in their use. Better tackle does not mean heavier tackle. Rods used today are no heavier than those used thirty years ago, and to increase the weights beyond those used would put the fisherman at a disadvantage. The large fish that are being taken today are much stronger than a man, and skill must balance the difference in strength.

The fishing boat was slower to follow the general trend of improvement. Thomas McD. Potter's *Aileen* was the type of boat generally used in the early days. Its scant eighteen feet was propelled by a hesitating single-cylinder engine which could never be trusted enough to do away with mast and sail. Diminutive as it was, this little boat took part in many of Mr. Potter's big catches. The last few years have made up for any hesitancy shown in the improvement of fishing boats. There are now several types, each best for the particular kind of fishing for which it is designed.

First, let us consider the boat which has been designed solely for fishing. It has properly been called a "fishing machine." This boat is ideal when carried on board a yacht which it uses as a base. If used independently, it must make the trip to and from the fishing grounds in a day, as it cannot be considered a cruiser. The best length for this type of boat is as near 35 feet as possible, although if it is to be carried on a yacht, it must stay within the deck and davit capacity of its carrier. The hull should be heavily built, and be a combination of the "Vee" and round bottom. Several watertight bulkheads add to its safety. Remember that a swordfish can drive his bill through the bottom of any small boat, and records of this are not infrequent. For power, there should be one medium speed engine capable of driving the boat at about twenty miles an hour. Its single propeller should be well guarded by a rudder skeg. If a small cabin is desired, it should be forward with the only access through a hatch.

Clear vision for at least one man on this type of boat is very necessary. This is because the first step in broad-billed swordfishing is to find the fish. It is all too easy to miss seeing a dorsal fin, especially in choppy water. This point of vantage may be gained in two ways. The first is by having a crow's nest on the mast. In this case, the bridge need not be directly accessible to the fishing cockpit, as the fish may be gaffed by the lookout, who has had plenty of time to come down from above. There must, however, be an unhampered view from the bridge in all directions in order that the man at the wheel may properly maneuver the boat during the last stages of a catch, as well as earlier in the fight.



Fishing cockpit of Edsel B. Ford's "Marlin," showing engine controls on after deck

The other method of gaining unobstructed vision is by having the bridge considerably higher than is usual. There should be no top over it, but a great deal of protection may be secured with a canvas dodger. It is advisable, in this case, to have a gaffing cockpit directly astern and quickly accessible from the bridge. This cockpit should contain another set of controls and its floor should be at a proper level for handling the gaff. One advantage of this arrangement is that the man at the wheel can also do the work of the lookout and can immediately drop into the gaffing cockpit to be on hand at the finish of the fight. This gaffing cockpit is also the proper location for the bait-box.

The fishing cockpit should be kept clear of all equipment not necessary for the fisherman. The transom should be short, as at times it is impossible to keep a fish from fighting straight down. The two fishing chairs should be placed so as to give the same amount of legroom to the side as to the stern, and should be at the proper distance to provide a good foot-brace against the combing. If space permits, a large cushioned seat can be built directly forward of the chairs. Rod sockets should be installed on the edge of the seat in order to assist in making it easier to hold a heavy rod or troll a hard-pulling bait. A folding canvas hood may be used over the seat, but there should not be any covering of any kind over the fishing chairs. Where both seat and chairs

are used, the chairs are built without backs, and are used only while fighting a fish. The fisherman is held into the chair by a low support, which is really a continuation of the arm rests. If the chairs are to be used while trolling, they should have a removable back. It should be remembered that it is impossible properly to pump a fish in a chair which has a back. In pumping a large fish, it is essential that the fisherman be allowed to use a full back action. This leaves his arms free to hold the rod and handle the reel — about all he can do! There is probably no better example of the fishing "machine" than the *Aerial*, developed by George C. Thomas, Jr., and George C. Thomas III. This boat, which is of the raised-bridge type, with both gaffing and fishing cockpit, was planned with the experience gained in building six other boats.

For the fishermen who wish to cruise some distance from the home port, a fishing cruiser will best suit the purpose. There must be comfortable quarters in which to sleep and prepare meals. Water and fuel capacity must be greater and considerable storage space is necessary.

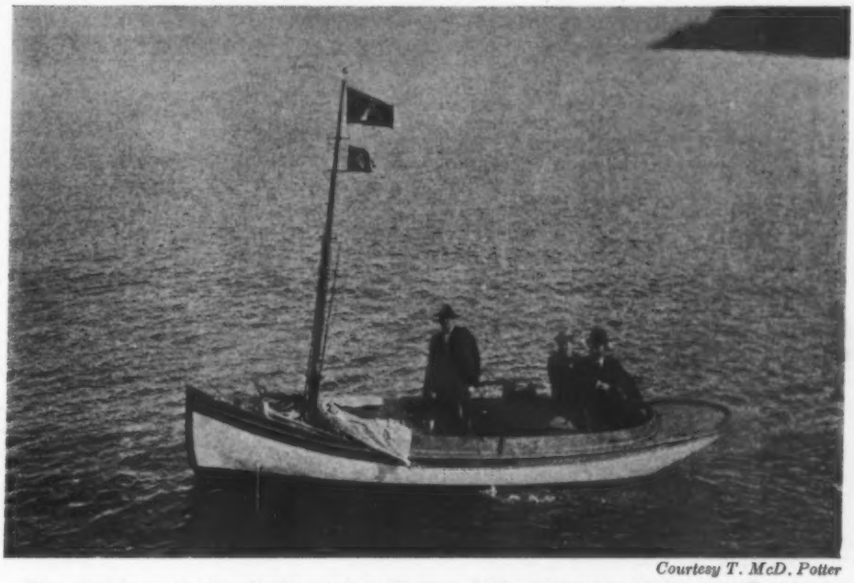
Fifty to 55 feet in length will, as a rule, work out to best advantage. If longer, it will be found cumbersome while fighting a fish, and if shorter, it will not only be crowded for space, but will not be as seaworthy as desirable.

The hull should be a round bottom, heavily planked and ribbed. A heavy duty engine will be found more practical than the lighter and faster type. A Diesel power plant will be found admirable for this type of boat and will greatly increase the cruising radius. As an emergency precaution, sail enough to make headway to windward should be carried. In the design and choice of equipment, stress should be put on seaworthiness and dependability, rather than speed.

The family cruiser which has been adapted for fishing is probably the type of boat most generally used because of its general adaptability. There are many stock models of this type of boat, which can be used to advantage. Fishing chairs having removable backs can be installed in the cockpit. These are, as a rule, built so that they can be quickly unscrewed from the deck when not wanted. The bait-box can also be removable, but should be clamped in place while in use. The reel for the fishing kite can be secured to the stern end of the housetop, where it will be out of the way.

Circumstances alter so many cases that it is impossible definitely to outline what a fishing boat should or should not have. Stock models found on the market are designed to fill as many as possible of the demands which are made on them. A boat which has been designed for general purposes has sacrificed some of its qualities for fishing, and a buyer must work out the best combination for his particular needs.

In choosing a boat for fishing, avoid a lightly constructed Vee-type hull which has been built for speed only. A boat designed for speed can be fairly steady and comfortable while underway, but will wallow unsteadily when it comes to a stop. To keep dry when not moving it must head into the wind. This is seldom possible while fighting a fish, as a fish will invariably run into the wind when hooked. This necessitates standing stern to the wind, or even backing into it.



Courtesy T. McD. Potter

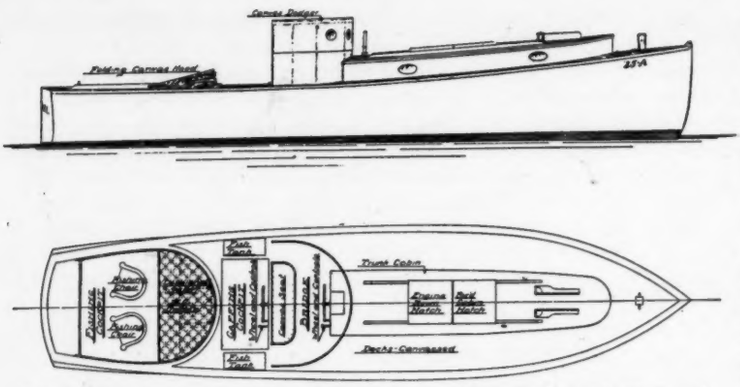
Propelled by a single-cylinder engine, Thomas McD. Potter's "Aileen" was the forerunner of the present-day power fishing boat

Light-weight, high-speed engines should not be used. Extreme speed is not necessary. Instead, use a comparatively slow, single unit engine with but one propeller. The one propeller needed will cut plenty of fishing lines, even though protected with a rudder skeg. A positive, heavily built reverse is very essential. It should be capable of many hours of constant use while fighting a fish.

A harpooner's pulpit is not desirable on a sportsman's boat. The harpoon is a weapon of the commercial fisherman.

Equipment must also vary to accommodate the needs of the fisherman. A properly constructed bait-box will do away with the unpleasant odor too often found on fishing boats. The box should be well insulated in order to maintain the ice and preserve the bait. The inner lining should be of metal and be removable. In this way, it can be thoroughly scrubbed and rinsed, as well as aired. If possible, the box should have a drain pipe leading off the side of the boat, or into a cockpit drain which empties outside of the hull.

A Marblehead 36-foot cruiser equipped for fishing, by Staples, Johnson & Co.



"Aerial," a fine example of a modern fishing machine, developed by George C. Thomas, Jr., and G. C. Thomas III. Reproduced from "Game Fish of the Pacific," courtesy J. B. Lippincott Co.

Where to Fish

The last few years have also developed many new localities where excellent salt water fishing may be had, and, together with the waters heretofore used, furnish excellent opportunities for fishermen of both the Atlantic and the Pacific coasts.

On the West Coast, the Catalina Island fishing is known the world over and it is still a fisherman's paradise. The tuna there have been so pursued by net boats that they have become very scarce. The albacore, an ideal light tackle fish, has also become very uncertain because of commercial fishing. Marlin swordfishing has been remarkable during the last two years and broad-billed swordfish are plentiful enough to keep the fisherman everlastingly at it.

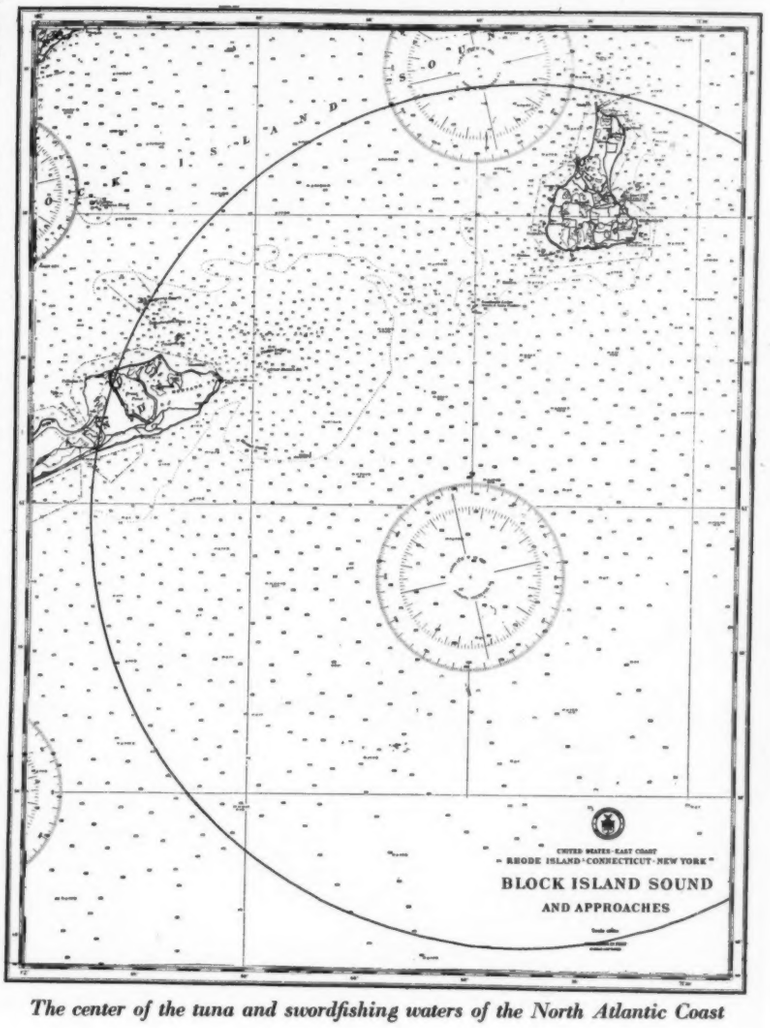
The west coast of Mexico furnishes very good fishing for those who have large enough boat equipment to make the trip. The waters around Cape San Lucas, which is the southernmost end of Lower California, Mexico, is one of the best — if not the best — all-round fishing localities on this continent. Fish from both southern and comparatively northern waters seem to congregate there, and they include both large and small tuna, striped marlin and black marlin. Sailfish, found in Pacific waters from Cape San Lucas to the Canal Zone, are large and will average over one hundred pounds. A large number of other game fish are also found in these Mexican waters.

The South Atlantic and Gulf Coast are already well-known for their tarpon, sailfish and small marlin. Farther north, from the coast of New Jersey to Nova Scotia, one will find tuna plentiful, ranging in size from the little 15-pounder up to sizes too large to be conquered by rod and reel. It was here that Zane Grey took his record tuna weighing 758 pounds. Marlin swordfish are to be found in good numbers off the coast of New Jersey and New York. These marlin are larger than those found in Florida, although smaller than those taken on the Pacific Coast.

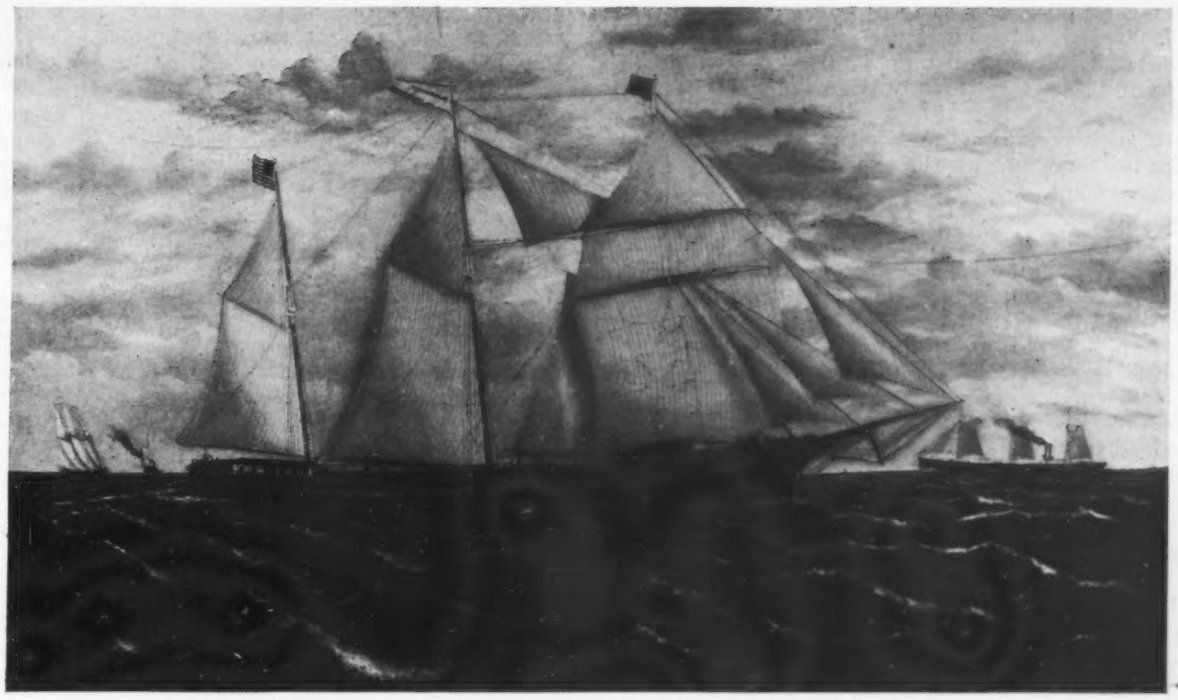
The waters around Montauk Point, Long Island, and Block Island furnish some of the best big game fishing to be had today. Tuna weighing up to about 65 pounds are exceptionally plentiful and furnish much sport with light tackle. Larger tuna are also to be had, the size being limited only by the sturdiness of the tackle and the skill and stamina of the fisherman.

Many marlin swordfish also inhabit this district. These fish are seldom seen by casual fishermen, as in this locality they do not seem to feed on the surface. The fisherman who is experienced with the fishing kite or the teaser, has no trouble in making them show themselves.

Broad-billed swordfish, the monarchs of all sea fishes, are more plentiful here than in any known waters. Records, which have only recently been compiled, show us that over 80,000 swordfish have been taken commercially in this locality during the last six years. This represents fourteen times as many as taken from any other waters during the same period. This locality, however, is comparatively new to the sportsman, but should soon produce some fresh records for rod and reel fishermen. It is here that one will find the fishing machine, the fishing cruiser and the family cruiser, all taking part in one of the finest and most thrilling sports of the day. And this sport, which should have a wide appeal for yachtsmen, remains to be developed and explored, for it is comparatively new and offers an untried field of outdoor activity combining all the pleasures of yachting and fishing. These two sports do not often go hand in hand, although it seems reasonable that they should, for they have much in common, especially for the yachtsman who wants to go off shore, even if the fish aren't biting.



The center of the tuna and swordfishing waters of the North Atlantic Coast



The "Nellie Redington," which outmaneuvered her rival, the "Thomas Quayle," and won the stakes

A Winter Race in the Eighties

By CAPTAIN GEORGE E. ANDREWS

WHEN we speak of racing on the water, everyone is wont to think of trim yachts, the race for the America's Cup, or other celebrated races. But how about a tale of a race of ships, in the winter, for honor, renown, and money?

My story is of a race that was a race indeed. No weather could be considered, and no postponements. The stakes were for honor, and a great deal of workingmen's money. Long chances must be taken.

This epic race took place on the Great Lakes in the early eighties. A great iron company of Cleveland had 1500 tons of special iron ore in the dock at Escanaba, Michigan. It was early December. To save great loss of time at the furnaces at lower lake ports, that cargo had to be moved to the lower lake region. Navigation was likely to close at any moment, for it was already bitterly cold in the region where the iron was stored. Shipment by rail was unthinkable; it was too expensive and all the ore had to be moved at the same time.

In this period the splendid sailing schooners of the Great Lakes were in their prime. They were beautiful ships; they were able; they could carry sail until everything was in a smother. Moreover, they were manned by excellent sailors and officers. Navigation on the Great Lakes at that time, without modern aids, was a hazardous business.

To ensure the moving of the cargo, a unique proposal was made. Two ships were to be sent, and it was to be a race between them. If one failed, the other might carry on and beat the close of navigation. The first ship that rounded the lighthouse on the point at Escanaba and reported to the agent there would be the winner and get the load; the other would be out of luck.

Two ships accepted the battle, one the *Nellie Redington*, a beautiful three-masted fore and aft schooner of peculiar rig. She was commanded by my father, a master sailor. The other vessel was the *Thomas Quayle*, also ably commanded. My brother was first officer of the *Nellie*, and I held down the second officer's room in the cabin.

Both captains were summoned to the office of the company. There was drama in the air. We shook hands all round, as we were all well acquainted, and the manager of the company stated the conditions. Both ships were to be towed out of the Cuyahoga River at the same time. The first to report for the load and to pass the light at Escanaba was the winner. She was to get the load and the money. The freight money was seven thousand, five hundred dollars and the iron had to be landed in Cleveland before the close of navigation.

I saw a sparkle in my father's eyes as the man talked. Throughout that section he was known as a very devil to carry sail — and he could carry it, for the *Nellie* was always in perfect condition. She was fast, able and superbly commanded. The other ship would be equally well commanded. Both vessels were almost alike, but somewhat differently rigged.

The *Nellie* was a three-masted topsail schooner with squaresails on the fore. In addition, she carried four jibs; jib topsail, flying jib, jib, and fore staysail. Her upper light sails were a main topmast staysail and three gaff topsails. The *Quayle* carried straight fore and aft rig, and was, in every way, a worthy competitor of the *Redington*.

"Dead heat," the old-timers muttered in their whiskers. The battle of opinions raged back and forth. Each ship had her following. The newspapers took up the battle and their columns tore back and forth in a variety of opinions — which settled nothing.

The agent at Escanaba had orders to keep the ice clear from the docks and to use ice breakers to keep it moving; under no circumstances must ice be allowed to form to any thickness at the dock; no expense was to be spared.

With such conditions and with such a setting, no wonder the news spread; the whole region fairly sizzled with excitement.

The two captains signed the agreement and we went back to the ship, my father making a stop at a telegraph office for a few minutes. The moment we were aboard all hands were summoned to the quarter deck. Even the steward and the cook were there.

"Listen, boys," the captain began. "You have a real job ahead of you. All of you have heard of this great race for a cargo of ore; the wages are high, but if the *Nellie Redington* shoves her nose around Escanaba Light in the lead your wages will be doubled." That meant ten dollars per day.

The men cheered lustily. There were Irishmen, Swedes and Yankees in that crew. The Old Man was known far and wide as a humane commander — but a driver in emergencies. "It won't be watch and watch this trip," he continued. "You'll be called out in all stages of weather, good and bad, to handle these big sails. In fact, we are going to sleep when we can. How about it?"

"Sing out," was the reply. "We'll stick till hell freezes over."

Next morning both ships lay at the pierhead. The wind was blowing square into the river; that laid us head to wind. As the tugs moved us down the river, the captain ordered all three lower sails set and the booms bridled amidships. The advantage in this was that by laying head to wind and with plenty of time, those huge sails, with canvas as thick as shingle butts, could be sweated up like boards.

In an hour they were up and their terrific slatting sounded like thunder. The tugs puffed away and turned us loose just outside the waterworks crib. The wind was fresh from the northeast, and that was fair.

We set the three jibs on the run; and then the gaff topsails took the breeze. When the tugs let go, we were packed from boom saddles to the trucks with great billowing canvas. The race was on.

The next morning, at Point Pelee just east of the entrance to the Detroit River, we were probably leading the *Quayle* by a mile.

At that time, sailing ships were always towed from Lake Erie to Lake Huron through the Detroit River, Lake St. Clair and the St. Clair River. Usually one tug would take three or four vessels through in one tow. When my father stopped at the telegraph office he had wired the owner of the big tug *Sweepstakes*, in Detroit, to have her meet the *Redington* inside of Point Pelee and to plan to take us through the river alone. There was nothing unfair in that; the master of the *Quayle* had the same opportunity. But what looked like a mighty good move in strategy turned out to be a failure because of treachery.

The tug was there and came boiling out from behind the point in a smother of foam, going by us very close. As she passed she hailed us to shorten sail and announced that she would pick us up as soon as she had got the *Quayle*. As this message came down the wind, we were treated to about as thorough and fine a job of cussing as I ever heard. Did we shorten sail? We did not; but the Old Man paced savagely back and forth across the quarter deck. Shorten sail? Huh! At that very minute, the *Nellie* was doing better than twelve knots by the log. Her hatch coamings were awash and everything was in a smother — but she was stepping.

Father nodded for me to join him in his room. My brother was there, also, but we were both silent. The captain looked at his barometer. "Boys," he snorted, "we're going to have a bad blow from the south'ard; that will be fair. I'm betting it will last us through the rivers; I'm going on alone under sail." Thus did we get the edict.

We looked at him aghast. Sail through! Gosh! Well, we knew what that meant. The wind must be fair and it must hold. If it failed, we were "licked."

"But, sir," I murmured, "the wind; the head current; wouldn't it be wiser to tow through with the *Quayle* and beat him sailing on another start on Lake Huron?"

"Yes, and no!" replied the captain. "I'm betting a life-long experience against the failing of the wind. This wind will last and blow great guns for twenty-four hours. That's more than we need and the *Sweepstakes* can't tow fast enough to beat us. Now get out and get ready!"

That settled it. Looking through the glasses, I saw that the *Quayle* had shortened down and had a line on the tug. They kept enough sail on her to help and we went to our duties with heavy hearts; it looked as though we were beaten almost before we had started.

Always the captain glanced aloft; never were sails so tended; a pull here, a pull there, and away we bowled. Slowly but surely, the *Nellie* left the tow.

The news flew through the ship that we were going to sail through the rivers, an unheard of undertaking. Ominous shakes of the head were very plainly seen, but there could be no questioning of orders.

Away we flew. The captain called me to take the wheel so that another strong pair of arms for sail trimming would be available. I was small and light.

The long tows, the last of the season bound down, stared at us in amazement as they passed close by. All recognized the ship. Every tug roared out a salute; all knew of the race, but they had never seen a ship of our size sailing *up* the river.

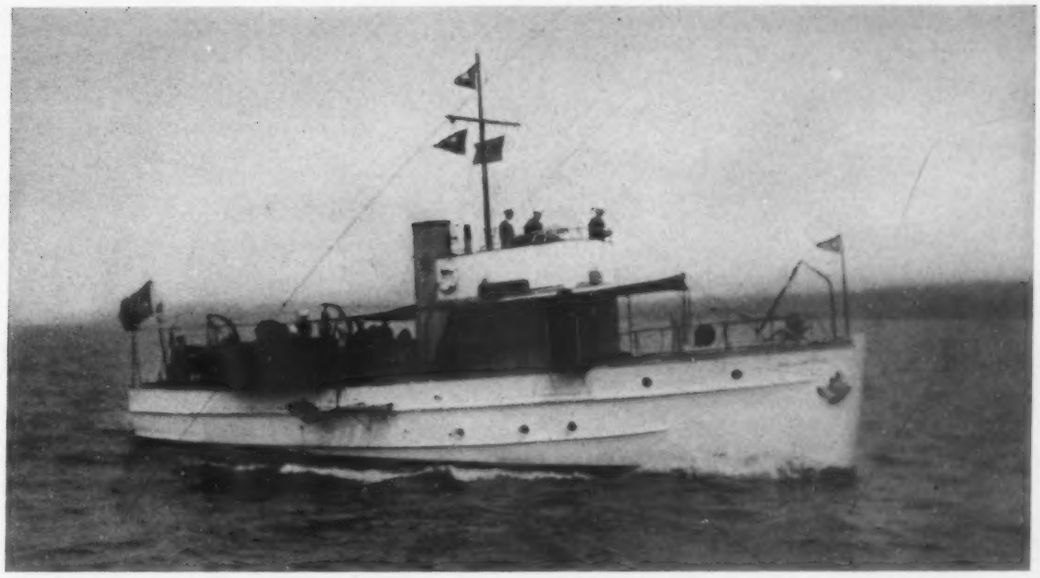
It continued to blow great guns. Not a rag did we douse; everything that we could pack on her was bulging with wind, as we foamed through the narrow channels. When we came to the Port Huron rapids, the most dangerous section of the river, the Old Man still packed on the canvas. As we entered the rapids he came and stood near the wheel. He gave me a sharp look and seemed satisfied.

"Watch your step, now; don't get confused, and watch me like a hawk," he said as I spun the big wheel to the powerful current. Finally we roared into Lake Huron — and the *Quayle* not in sight. The crew gave three rousing cheers.

We had sailed out just in time, for the wind began to haul. In an hour it was nor-nor'west and had headed us. We reached over toward Georgian Bay on the starboard tack. Muttered and long-drawn-out curses emerged from the Old Man's whiskers. It looked as though we were due to lose all we had gained by our long chance through the rivers. It kept hauling and we went to the port tack and reached over toward Thunder Bay. Every soul on board our ship began to swear. The *Quayle*, on the starboard tack, crossed our bows. She was close — but she crossed. The wind had headed us and let her look up.

As she crossed, the Old Man put *Nellie* about on the heels of the *Quayle*. The captain of the *Quayle* jumped

(*Continued on page 90*)



The Sea Scout ship "Ballantrae." She is a twin screw cruiser 61 feet in length, powered with two Diesel motors. Manned by twenty-two Sea Scouts, she makes two-week cruises throughout the summer. She was the gift of Robert C. Roebling to the Scouts

A Sea Scout Looks at Life

Being the Letters of Moon Ridgeway, a Boy Scout Working Toward His Sea Scout Registration, to the Editor of YACHTING, at the Request of a Sea Scout Executive

By GEORGE DAVEY
Trenton Boy Scouts

Somewhere in the Canal
July 23, 1930

Dear Mr. Stone:

HERE it is, according to promise, but I guess maybe I will be a better Wiper than a novel writer. Anyway, you asked for it, and maybe you will know yourself how hard it is to write down in the foc'sl up near the chain locker while the rest of the gang are singing up above. But even at that, there is something in this writing business and I might decide to be an editor myself some day. So, Mr. Stone, when you want to have a keen-eyed observer at the Cup Races, you might remember that I am giving literature a serious look-over.

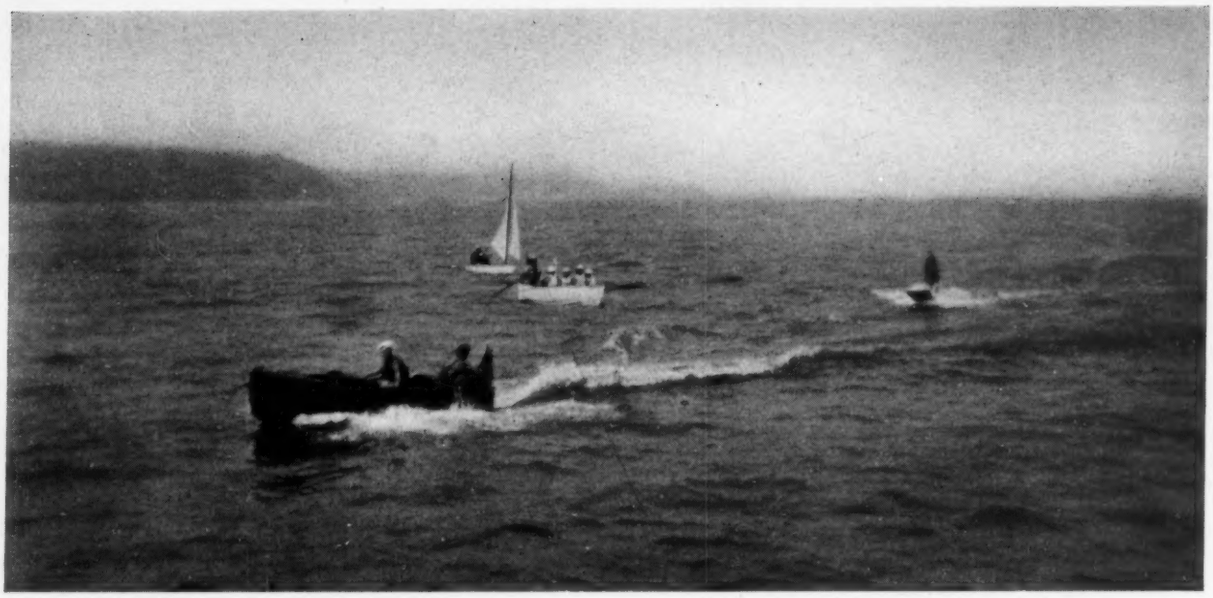
Well, we reported at the Trenton Yacht Club this afternoon, as orders read from Headquarters, and the first thing we saw were all the other kids on the landing. They were sure trying to look salty, and their Sea Scout blues were snappy and seagoing enough to make me cock my own hat forward over my right eye, too. That, Mr. Stone, is something all good "gobs" learn first.

And while I was looking over the gang, who seemed to be from three different Sea Scout ships, or maybe four, I saw they were all waiting for a motor boat towing a whaleboat ashore, and then behind the boat I saw the *Ballantrae*, of which we would be crew in a few more minutes. And, say, there never was a better-looking craft for me — long and low, her white hull and trim spar-colored upper works, her raking stack, and the little white bridge that was tucked under the mast. I like every bit of the old boat and I will want to be on plenty more of these cruises.

But things were happening, for with the motor tender's arrival and the stepping ashore of a handsome young officer, who we found later was Mr. Wood, the Third Officer, a lot of order was established.

Our crew put their baggage in the whaleboat (I should say they stowed their dunnage) and then the tender took us in tow and whirled away to the ship, where we were told to go aboard over the port gangway. And what a boat we found on the other side. She is 60 feet long, Mr. Stone, and 14 feet wide. Up in the bow there is a little forward deck, with two winches, a spare anchor, and a flat coil of hawser. Back of this there is the pilothouse, with a wheel, binnacle, engine room telegraph, bells, whistle cord, chart cases, a clock, a barometer, a thermometer, a transmitting low wave set and a receiver. Two folding bunks on the after wall fill the rest of it. And above this is the flying bridge, with tight canvas walls, and a whole set of wheels and binnacles like the pilothouse. The compass there is the old style, and the inside compass is the new. Then a whole case of flags and a pair of binoculars, and the flying bridge is complete. Right behind it is the mast, with the radio aerial stretching from just above the yardarm. A light at the masthead and a light at the yard tip, and then we go on aft to the stack, which is a large, slightly streamlined steel affair, painted spar color and decorated on each side with the Sea Scout badge. Inside the stack there is a Maxim silencer which takes the exhaust gases from the motor.

Abaft the stack there is a hatch to the engine room and beside it a light for the galley; and, still aft, a large deck space which is raised, as it is really the top of the



Crew of the "Ballantrae" at small boat drill off Newburgh. Tender towing aquaplane in foreground, pulling cutter, and sailing skiff

trunk cabin. The deck runs around this cabin, two feet wide on each side, to the quarterdeck at the stern, this being about ten feet wide, eight feet across, and surrounded partially by a wide, cushioned lazy seat.

From the quarterdeck a tiny gangway leads to the after cabin, where the captain, engineer, executive officer, and navigator sleep when they are not on watch. While all these men have watches, the Sea Scouts really run the boat, as we soon found out.

Going forward from this cabin we step into the engine room, which is the place where I will shine, Mr. Stone, and I mean that because I am Wiper. This room is occupied chiefly by engines, as engine rooms are apt to be, but the big engine in the middle is the main works. This is a Diesel engine with four cylinders, and maybe I don't mean cylinders, for they are about as big as our whole Buick engine back home. And there is a little gasoline engine, too, for generating power for the batteries, which line the sides behind white walls.

Another door as we go forward, and we are in the galley, where the steward is generally found busy with the next meal. These "salts" get plenty hungry and stay that way. There is just enough room to turn around in that galley, and the cook can stand in one place and reach the stove, the ice chest, and the sink. Which, anyway, saves him some steps. The next door leads to a long mess deck, where a trick table unfolds its two benches when the crews are ready for the meal. When the tables are away the folding bunks at the sides are ready to sling for use. These reach 'round all the cabin sides, three high. A toilet room completes the quarters to the foc's'l, where the bunks get to be three high again. And when they are all slung and the Third Officer swings his hammock in the middle, Mr. Stone, there is not much room to be playing any basketball. And way up in the bow is the chain locker, where the anchor chain goes when it is inboard. And later I found that way in the stern there is a lazarette, where the holystones and brooms and swabs are lying in wait for somebody every day. And so you have our ship.

Well, a few minutes after we had all seen the boat, we were piped above with a call for all hands, and the cruise objective and customs were explained by the officers. Then the Exec., Mr. Pillsbury, showed us a big sheet which made up the crews, and they line up like this:

Port Crew: Coxswain, Signalman, Junior Signal, Messman, Waterman, Machinist's Mate, Wiper, and Carpenter.

Starboard Crew: Coxswain, Signalman, Junior Signal, Waterman, Machinist's Mate, Wiper, Yeoman, and Sailmaker.

These names are so clear, Mr. Stone, that you will see what they all have to do, and each one has a piece of brass all his own to shine up every day, ready for inspection. Besides this there is an Officer of the Deck on duty all the time, and we all get a turn at this.

While we were stowing our gear, we heard two loud bells and the starboard crew tumbled above for they were on duty. I went along to watch, as the mooring line was cast off and the jangle of the engine room telegraph produced a sudden *hush-hush* in the stack and all of a sudden a swirl of water at our stern as we turned down the Delaware River for our cruise to Montreal. The bell spoke again, and the stack's voice got faster as the boat settled into a steady nine-knot speed. As we went along I leaned over the rail and watched the red nuns and the black cans as we passed them to port and starboard.

It was hardly any time at all before all hands were piped again for mess, which was a sure welcome sound for every man on the crew. And when we each got our feet over the narrow bench, we found on the scrubbed boards a regular white china service for every man, and on the big plates we found roast beef, mashed potatoes, gravy, string beans, bread and butter, cake, and milk. I guess this hard tack and slumgullion talk was a lot of haywire, after all. When we had finished we found that half of the port crew was to clean up, and of course I would be in that half, but it is all "aye, aye, sir," for the other half will be the next, and then the starboard crew will have a turn.

As we came above, we found our *Ballantrae* slipping into the Delaware and Raritan Canal, where we enjoyed an easy trip between the smooth banks until we came to Griegsville, where we tied up, stood by for colors, and had our second meeting with the officers, after which we went in swimming.

And now I am down here, Mr. Stone, and while I will have to write a lot I think it will be more about the boat and less about the scenery, as I am Wiper, and you

know what that means, Mr. Stone. But anyway, I will be pounding my pillow now, and tomorrow night, Mr. Stone, I will describe the trip from here in the canal through New York to the Hudson River. That is, if I am not busy in my billet as wiper on the port crew.

Saltily yours,

MOON RIDGEWAY
Apprentice Seaman, B.S.A.

Aboard "Ballantrae"
July 24, 1930

Dear Mr. Editor:

Maybe these smart boat designers are pretty good at boats, but when it comes to leaving a place where a fellow can think of making a little literature, Mr. Stone, why they are all just dory designers to me. Would you believe it, you have to make three deck tours to find any place where writing can be done, and then you put the paper down where you found it a long time before and start. Here it is five bells, and my first chance for a crack on the pen, and I am all doubled over the engine room hatch from where I have just been relieved for a while. And last night I was up in the chain locker.

Well, we left the canal early this morning, and the sun came up and looking just like it did going down. This sunrise talk from Mary Roberts Rhinehart and others is all haywire. Well, we stepped along, except when we hit a hand bridge, and got out down near New Brunswick, and then down the crooked old Raritan River to Perth Amboy. Say, it is some kick from there, out into the bay and around three buoys and head straight past the bell buoy right up to where we met the Ambrose Channel. And the little islands, the forts, and then the Statue of Liberty. Mr. Stone, I will always be glad that I saw this first from a boat coming to in New York. Maybe it will be hard for you to understand, but I gave her a snappy salute when we went by, and pretended that I was just shoving my hat back when another kid looked at me. But you know, Mr. Stone, there is nothing to be ashamed of, and I went back after awhile and told that kid I had saluted, and then I found that he had, too.

Well, those big buildings are swell to look at, but I am wiper on the port crew, Mr. Stone, and when my watch went on, so did I, and all I knew for sure was that we got bells and the engine room telegraph said *stop — reverse — stop;* and then we shut her off and I heard them say above that we were at 44th Street. Somebody came aboard and I heard a yell, "Hello, Fred Dearmin," and later a new man came through the room and I found he was the Sea Scout Director for New York and New Jersey. Jingle again, and we grabbed for the air and up the river again; and so I got relieved later and we came to West Point, where Skipper Pillsbury took us all ashore for a visit to the Military Academy, which we approved of.

And the last three miles of this we were towing a disabled yacht, but my job was due and so I did not see what or why. So I will sign off, Mr. Stone, and remind you that this taking the pen in hand is just about as much work on a boat as picking up a couple of holystones and working with them both.

Loyally yours,

WIPER,
Port Watch

Somewhere in Hudson
July 25, 1930

Dear Mr. Stone:

Maybe you will be getting tired of all these letters, as I have not heard from you yet though I went in for mail at the Albany Yacht Club. But if you are real busy I guess you will not be writing many letters and will be glad to get mine, anyway.

So we weighed anchor at West Point at four bells this morning, and up the misty old Hudson while everybody was shoving on some more clothes. They all dressed in an awful hurry, for the last man to get above at "All Hands" has the job of taking care of all the wash bowls and running water appliances in general, and this man is called "Captain of the Head," and you know, Mr. Stone, when we are captains we all want it to be captains of the bridge and the quarterdeck. So they dress fast, and then as the crowd is all moving at once, sometimes two men get in the same jacket at the same time, and Wood dressed another fellow one morning and got caught himself for he thought he was pulling his shirt on his own back.

And so, up the river we go, and the snappy call for morning colors is welcome, for we know that right afterward will toot the sweet call to breakfast, and we all sit at the long mess table on our folding benches while steward Bob Carhart and his messmen lay out the breakfast. That boy is sure a cook, and he must like it for he has cooked three thousand and twenty sea scout meals this summer, and still has half a summer to go.

Changing the watch on "Ballantrae." Above, crew of "Ballantrae" at Fort Ticonderoga, July, 1930

After my watch I found we were getting near the big bridges at Poughkeepsie, and then after ducking about five hundred big drift logs from some place we slid into the port shore and tied up just north of the Albany Yacht Club. Guess we are here for a little while, and some of the gang have gone to help get ice. I sat up in the bow for a while and watched Mr. Dearmin break out the ten-foot sailing skiff we have stowed in the life boat.

Mr. Davey came aboard at six bells, and pretty soon we got the jingle, and it was the other watch on duty, so I sat near the big stack and watched the river slide by and then went into the pilothouse and Mr. Reese, who is Skipper of another Scout ship at home, showed me the charts and we are due to go straight north through the canal. We soon found out it was a canal, for the first lock let us stand by and whistle three times without any answer. Finally we nosed up to the lock end and set the navigator ashore, and he went around the lock house and found three men all sitting in their chairs. But pretty soon the lock started to open for us, and so we went along, because we were a training ship of Sea Scouts. And we had to put the tender overside here so it would not get smashed in lock walls, and the life boat is swung inboard, and the mast is unstepped and lashed to the deck.

There is a whole line of eleven more locks ahead, but they all are state locks, and if they are good like the last five we hit we will be in luck. Most of them have started to lock before our first whistle was finished. These New York State locks are clean and shining. After I looked in one lock house I came back and slid down the hatch and polished my brass assignment again.

And now we are tied up at Mechanicsville for tonight, and the fellows who wanted to go ashore for a soda were inspected and allowed liberty till two bells. And we have a swell kitten in the foc's'l now, Mr. Stone, he sure does know his boats. Walked right on, jumped down the after hatch, through the engines and stopped dead in the galley. We have named him "Moss Ears" and are going to help make him an Able. Hope you are getting some good cruising Mr. Stone, like we are, and I would advise you to start at the bottom in a billet if you want to be a top grade cruising officer. Passed two of my sea tests today and maybe this summer will see me Ordinary, then a dozen more tests to Able, and I will try to be a Quartermaster after that.

Sleepily yours,

MOON

At International Line
July 27, 1930

Dear Mr. Editor:

That "international line" sounds like big stuff to me and I sure have sent plenty post cards back with this heading. I am sitting on the top step of the flying bridge for a little while and will now bring you from where I left you down the canal up to this Rouses Point pier.

We made Whitehall last night with our new cat, and with all boats inboard and the mast laid back along the awning ribs. There is a bridge there that was only about one inch higher than our stack, and we all went ashore and warped her through the center span with fore and quarter hawsers. And so to sleep; and later along into the narrow little Lake Champlain, which sure ought to be called a river, I think. And we pegged right along till we came to Crown Point at about one bell this evening, and after inspection had a liberty party ashore, where we went to the top of the war tower and then through the old forts. The old settlers sure built some mighty interesting places.

We all hit for the ship again in columns of two while every man whistled "Anchors Away." And so into the life boat, and then the tender slid around from the starboard side of the dock and took our line, and we hit the ship from astern, coasting up the port side under our own headway while the tender and the officers made their own davits on the starboard. Both boats came up together and with the yell for, "Up behind!" (that means fasten the small boat hoist ropes), we heard the jingle of engines and the first bite of slow ahead. Believe me, there is a kick about these snappy "weighs," Mr. Stone, and it was only about two seconds more till the hook was out of the mud and we heard the hail from bow, "Anchors aweigh, Sir!" And then across the much wider lake to Westport, where we made anchor in a rising mist. People on the shore kept yelling about a path, but our chart showed clear and the lead was singing ahead of us from Mr. Woods' hand, so all felt safe and the anchor was let go with a clatter. After a little while a dory came alongside and told us we were in the path of the *Vermont*, and we were all wondering if we were in the Atlantic, but decided the *Vermont* would see us anyway.

After dinner the next day we shoved off and made the run to Rouses Point, and took along a scout from Troop 12 of Portland, Oregon, who was hiking west after a hike to Washington. We sent him for red oil and the key to the anchor watch, but he was a swell kid and we took him aboard right.

Heavy weather when we came in here, and this is an awfully queer dock, too low and too close to shore, so we had to come about and make a sailboat landing with our starboard side inshore. And the wind kept brisking up, so we all warped her around to the lee side.

Well, I am writing this by a faint light from a standard on the dock, and it is sure getting ready for a big blow, so I will go below and get to sleep before I get tossed out of my berth. It is easier to bump down when you are asleep, and easier to get to sleep again. Tomorrow we will enter a foreign country.

Your friend,

WIPER RIDGEWAY

St. John Yacht Club
July 28, 1930

Dear Mr. Stone:

Plenty happened all day, and yet we are now in a foreign country and the girl I got this foreign stamp from talked French. It sounded swell.

Last night we had one big storm, and the O. D. called the watch to make things fast. I was the O. D.

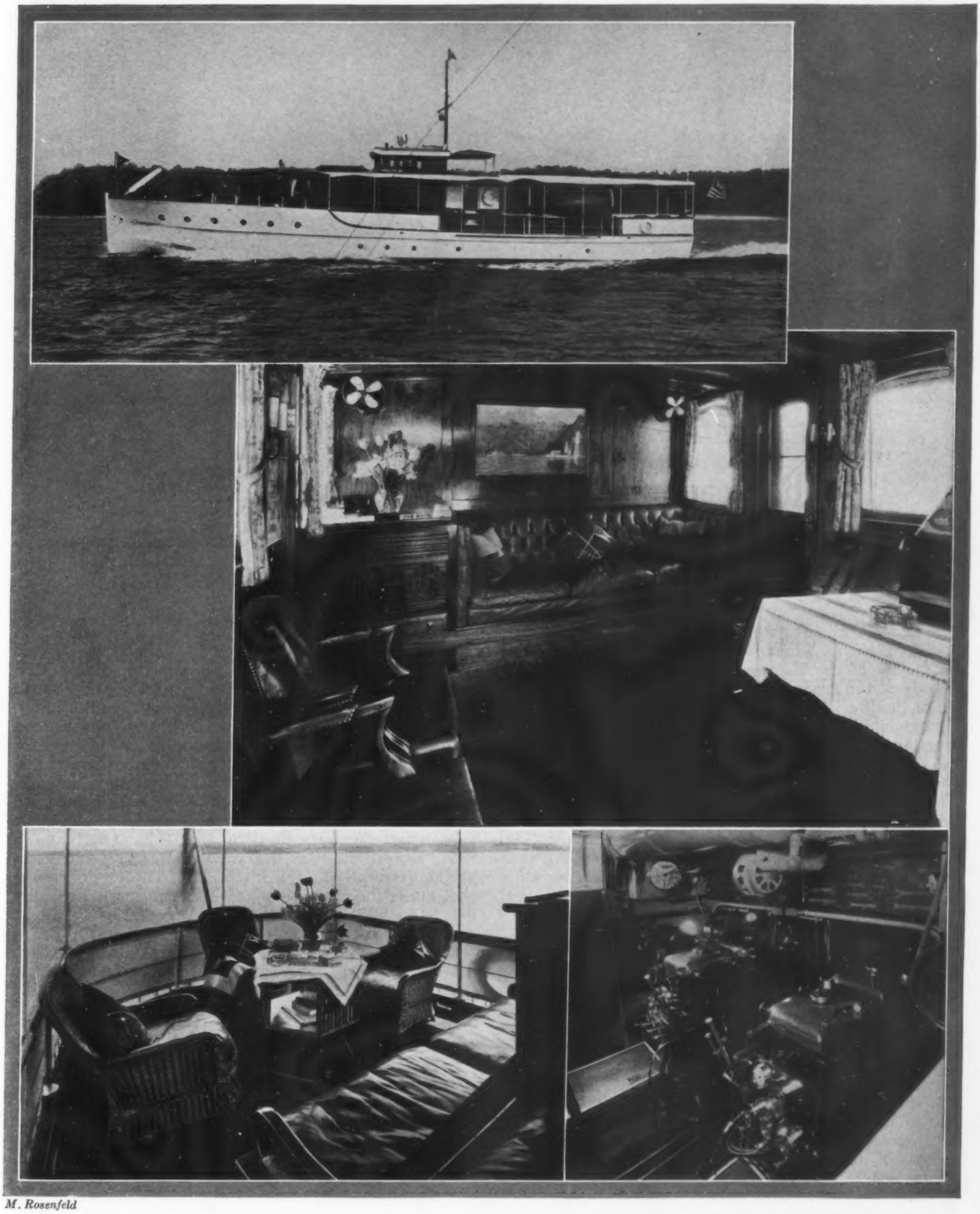
It cleared before dawn, and four bells this morning found all hands and every officer on the deck scrubbing the small boats and all the running gear. And with a shining ship we cleared for up the river. Soon the watch officer sang out that we were in Canada. And it was a big thrill for me, Mr. Stone. And I guess for every other kid in my watch. This afternoon we are all tied up at the St. John Yacht Club, a swell place, and we had all the small boats out for practice, and then a good swim.

The officers made a deal with a bus owner to drive us all to Montreal tomorrow. Oh, boy! At six bells we will shove off for the big town. And Mr. Stone, I feel like I might be in another country now.

Yours truly, RIDGE
Wiper, and a good one

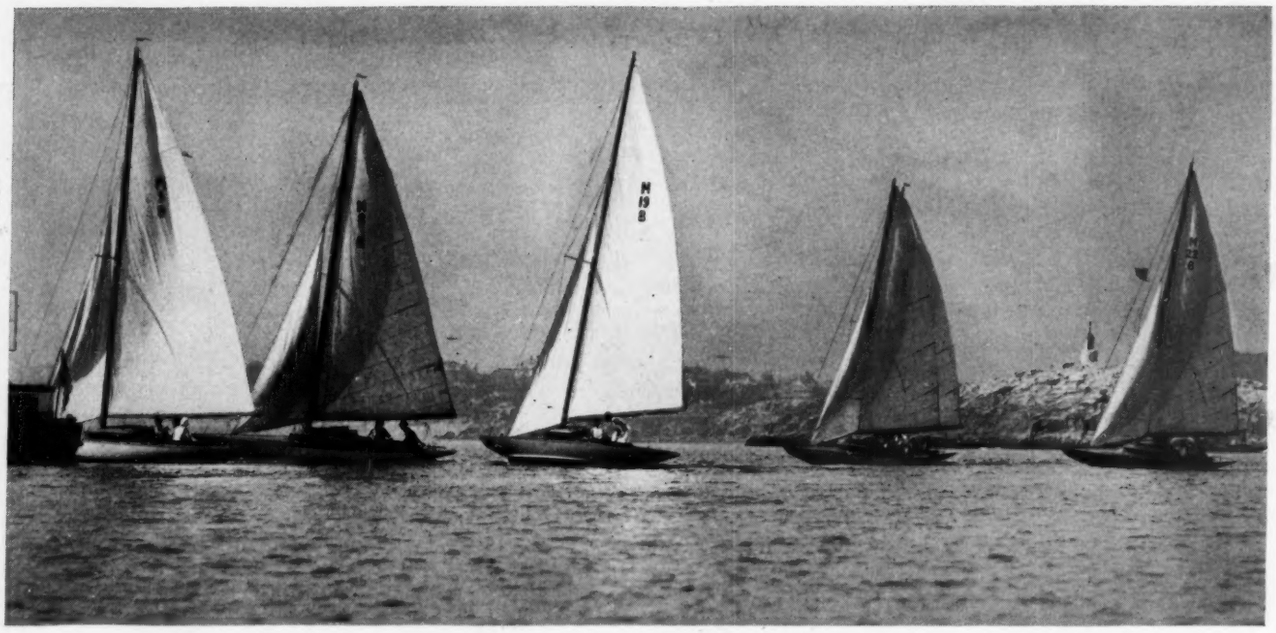
(*Continued on page 104*)

"Stella Polaris," A 70-Foot Diesel Cruiser



M. Rosenfeld

"Stella Polaris" is from the board of Henry C. Grebe and Co., and was built for Livingston Short by the Great Lakes Boat Building Co. She is Diesel powered, with twin Wintons. Her panelled main salon is warmly decorated and well lighted. The spacious after deck makes good use of practical and attractive wicker deck furniture. The motors have been well placed in a light and airy engine room



A close start in the preliminary round of the 1929 series for the junior championship, sailed off Marblehead

The Sears Bowl Under New Management

North American Yacht Racing Union to Conduct the Racing for This Junior Championship Trophy

By LEONARD M. FOWLE, JR.

LATE in April the executive committee of the North American Yacht Racing Union accepted the offer of the Eastern Yacht Club to assume the custody of the Sears Bowl, emblematic of the National Junior Sailing Championship. This change in management should have a far-reaching effect, for it takes the direction of the event from a single club and places it in the hands of a national representative body. On the whole, this should be for the best interests of the sport.

In the summer of 1921 Commodore Herbert M. Sears of the Eastern Yacht Club gave this trophy for a junior sailing championship of Massachusetts tidal waters. The event was first sailed off Marblehead that August with eleven crews competing. The idea of a championship of the junior sailors found such universal favor that seventeen participated in the second championship, including three crews from New York waters. During the season of 1930 nearly fifty crews were represented in the five district eliminations.

In all, ten championships have been held at Marblehead. Of late the sole management of the finals, as well as both the North and South Shore eliminations, have been in the writer's hands. Having been so intimately connected with the competition, one naturally views its passing from Marblehead with a feeling of regret, tempered, however, with the knowledge that it passes into hands destined to open new, and greater, fields of development. Under the old arrangement competition had about reached its maximum growth.

The Sears Bowl is a perpetual trophy, the first leg of which was fittingly won by Commodore Richard S. Thayer's Pleon trio, representing the oldest junior yachting organization in the United States. Before the first change in the conditions, victories were scored by Larchmont in 1922, Duxbury in 1923, and Pleon again in 1924. After this last series the trophy was made national in scope, with the preliminary competition introduced in six districts—Maine, North Shore, South Shore, Southeastern Massachusetts, Narragansett Bay, and Long Island Sound. Each of these groups was allowed to send their local champion to Marblehead for the finals, with the exception that the large Sound district could send two crews. Except for minor changes, the deed of gift and conditions have been the same until this recent transfer. The winners of the trophy since 1924 were: Duxbury in 1925 and 1926; Chatham in 1927; Beverly in 1928; Bar Harbor in 1929; and Vineyard Haven in 1930. It is interesting to note, considering that under the new deed of gift the winner will probably defend in his own waters, that in ten series the home crew has triumphed only twice.

For some years the Eastern Yacht Club has been faced with severe problems, which have finally led to the abandonment of the championships. A falling off in interest locally and the problem of arranging a crowded season had something to do with the decision to offer the trophy to the North American Yacht Racing Union, but the most serious (one also facing the new management) was the difficulty of finding suitable boats in which to hold the championships.

Twice in the first four years of the racing the Eastern Yacht Club built three centerboard knockabouts. These were not entirely satisfactory, and in 1925 the series was transferred to Herreshoff Class S boats, which were borrowed each season until 1929, when a shift was made to the Paine-designed M-B knockabouts. This latter type proved the most adaptable for the purpose.

(Continued on page 110)

"Ceres" entering Bude Harbor in a strong wind and a heavy swell

"Ceres," One Hundred and Twenty Years Old

A Wonderful Record of Over a Century of Seagoing

IT IS not often that a vessel nowadays lives for fifty years. A few in this country have passed the century mark, but they have been rare indeed. Therefore, the record of the ketch *Ceres*, now owned in and sailing out of Bude, in Cornwall, although one hundred and twenty years old, is of more than passing interest. The following account of her long and varied career has been written by W. W. Petherick, in whose family she still is owned. They certainly built them to last when *Ceres* was laid down.

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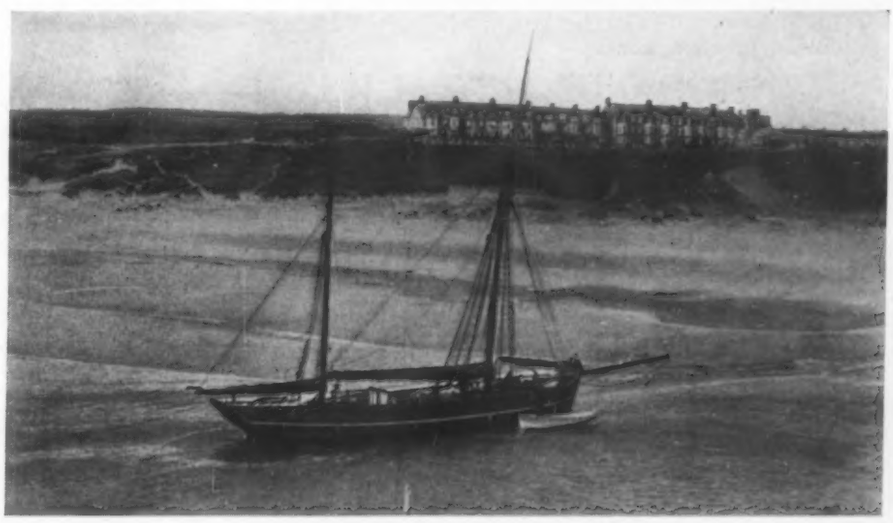
Ceres was built at Salcombe, South Devon, in 1811, her registered tonnage then being 34 tons, gross burden, 54 tons. According to ancient records she ran cargoes to ports in northern Spain, more than once having narrow escapes from French and, in 1812, American privateers.

During 1813 and the early part of 1814 she was in government employ, having been taken up in the Spring of 1813, when, after Salamanca and, as the result of the successful coast operations of Sir Horne Popham's Squadron, General Wellington shifted his operations from the Tagus to Santander. She was one of the numerous small vessels employed in carrying military stores.

There is an entry in the customs house records in 1813 of the *Ceres*, of Salcombe, 34 tons register, clearing from the Cork customs house for Lisbon with a general cargo. In those days she was considered the fastest little vessel in the three channels. After 1814 *Ceres* reverted to her owners and resumed her original employment.

Ceres first came to Bude, in Cornwall, where she is now owned, in 1826, with a cargo of timber from Plymouth. She was purchased at Bude in 1830 by a Captain Knowles who brought twenty cargoes of coal from Wales in that year. In 1852 she was purchased by Mr. Henry Petherick, a general merchant of Bude, and in 1865 he transferred her to his son, Captain W. W. Petherick. At this time she was put in dry dock for an overhaul, and while there Captain Petherick was persuaded to cut her in two. She was lengthened 15 feet in her widest part and when she was completed her rig was changed from that of a smack to a ketch. She then registered 54 tons and would carry 84 tons. At this time she went into the general coasting trade.

She carried many cargoes of barley from the Cornish ports to the whiskey distilleries in the western islands of Scotland, Campbell Town, etc. Also, she traded with nearly every port in Ireland, from Londonderry in the north, "south about" to Limerick in the west, generally taking cargoes back to the Channel Islands,



On the sands, awaiting the tide

the English Channel, London, Maldon, and Ipswich.

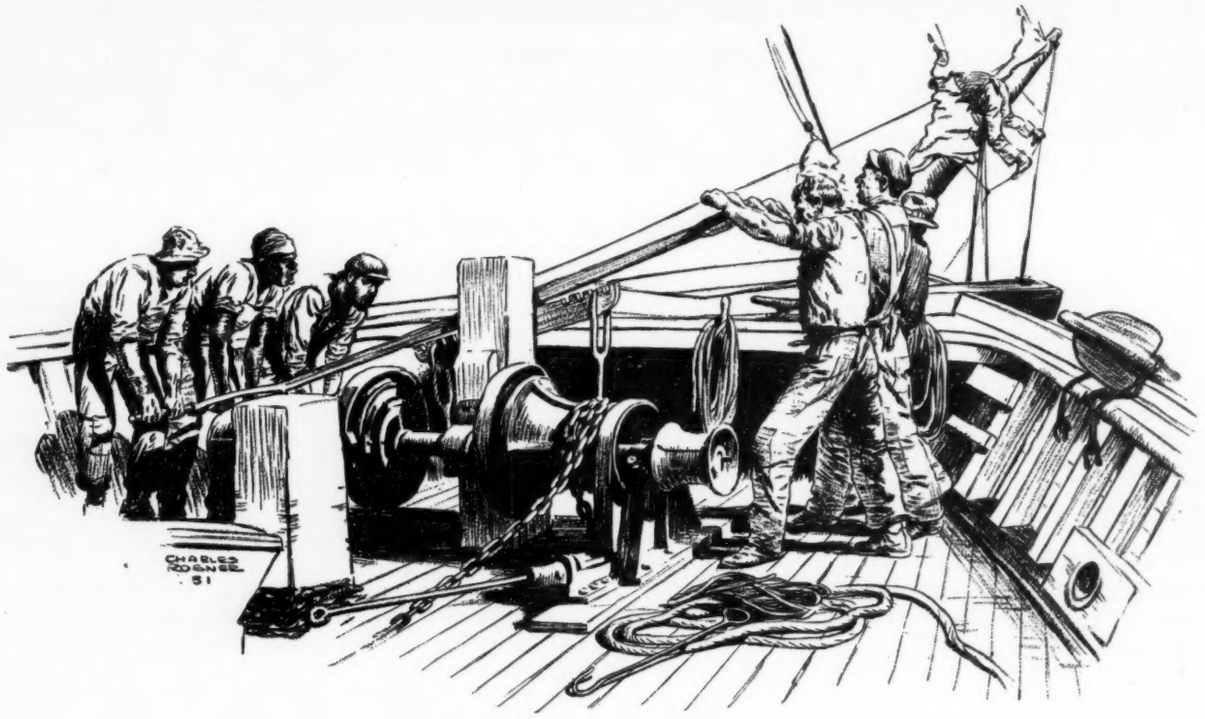
As to her seaworthiness, Captain Petherick states that he has weathered out many storms and hurricanes in her, but always she proved to be "all there," and every member of his crew always said she was the best sea boat they had ever been in.

In 1884 Captain W. W. Petherick left the sea and took over his father's business. He was succeeded by his brother, R. W. Petherick, who is still skipper of her today, having sailed in her for over half a century.

In 1912, over a century after she was built, a bold step was taken in installing a semi-Diesel engine of 30 h.p., which has turned out a complete success. During the Great War, Bude Bay and the entrance to Bristol Channel were hot beds of German submarines looking for tramp steamers. Several Bude coasting vessels were sunk, but *Ceres*, with her engine, was able to make regular trips to Bristol, Gloucester and the South Wales ports, returning with cargoes of grain, flour, groceries. With her light draft of water she was able to keep near the rocks and sands where the submarines did not care to approach, and so evaded them.

She made the record number of voyages for any vessel between Bude, Cardiff, and Port Talbot, during October, 1927. In a period of eight days she made four cross-channel round trips, loading and discharging each time.

Ceres is in splendid condition and is still going strong and there is every reason to believe that she will continue to be of service for many years.



From a drawing by Charles Rosner

Good-Bye, Fare You Well!

A Windlass Chanty

O fare you well, we're homeward bound;
Good-bye, fare you well, Good-bye, fare you well!
We're homeward bound for New York town,
Hurrah, my boys, we're homeward bound!

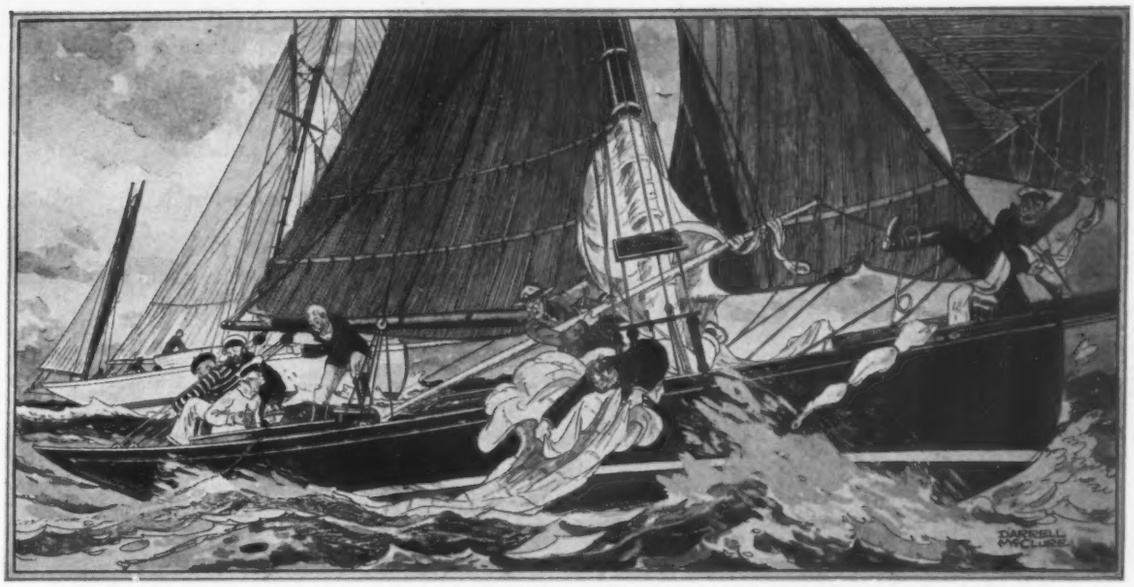
We're homeward bound, heave up and down,
Good-bye, fare you well, Good-bye, fare you well!
O, heave on the capstan and make it spin round.
Hurrah, my boys, we're homeward bound!

Our anchors we'll weigh and our sails we will set;
Good-bye, fare you well, Good-bye, fare you well!
The friends we are leaving we leave with regret.
Hurrah, my boys, we're homeward bound.

O, heave with a will and heave long and strong,
Good-bye, fare you well, Good-bye, fare you well!
And sing a good chorus, for 'tis a good song.
Hurrah, my boys, we're homeward bound!

She's a flash clipper packet and bound for to go;
Good-bye, fare you well, Good-bye, fare you well,
With the girls on the tow rope she cannot say no.
Hurrah, my boys, we're homeward bound!

We're homeward bound, and the winds they blow fair,
Good-bye, fare you well, Good-bye, fare you well!
And there'll be many true friends to greet us there.
Hurrah, my boys, we're homeward bound!



"Take in the spinnaker!" from forward. "Leggo the guy!" "Muzzle it! Muzzle it!" cried the old sailor

To Ireland and Back with the Fastnet Pack

By BEN BACKSTAY

"SHE'S straight up and down, sir," said the paid skipper.

"All right, break her out," answered the owner from the wheel.

"Heave and bust her," cried the old sailor.

"Heave a little yourself," puffed Augustus.

"Break out your jib!" cried the owner.

"Who the hell put all those steps on?" yelled Johnny, tugging at the sheet.

"The *Britannia* has the right of way," shouted the Scoutmaster in the owner's ear.

"Hot Dog!" cried the Subaltern.

"They didn't send out any bread," wailed the Cockney cook.

"Where's the stop watch?" shouted the Scoutmaster.

"Where's the committee boat?" demanded the owner.

"That's the five minute gun," the Scoutmaster announced.

"Is that jib topsail sheet clear?" asked the owner.

"All clear," answered Johnny.

"We'll get plenty of weather outside in the channel," observed the owner.

"I know that sky. It don't look good," the paid skipper added.

"One minute to go," said the Scoutmaster.

"Have you heard the story of the Seven Horse Austin?" began the subaltern.

"Break out your jib topsail!" interrupted the owner as the gun went.

"That was the gun," volunteered the Scoutmaster.

"Clear that jib topsail sheet," screamed the owner.

"We're out ahead," announced Augustus.

"Hot Dog!" cried the subaltern.

"*Jolie's* getting her spinnaker pole out," volunteered Johnny.

"She'll not be able to carry it," explained the Scoutmaster.

"Which side?" asked the owner; then, "Out spinnaker pole, set it to starboard."

"Where's the marlin spike?" called the old sailor, puttering around the forecastle hatch.

"*Tally Ho's* setting hers to port," said Johnny.

"Bring that guy *outside* the rigging," howled the owner.

"Lower away! That halliard's got to go *forward* of the lift," shouted the paid skipper.

"Are you ready forward?" called the owner.

"In a minute, sir," answered the paid skipper, struggling with the shackle in the head board.

"Who's got the marlin spike?" demanded the old sailor.

"Now shackle in the head," said the paid skipper.

"Hey! That's the ballooner halliard," yelled Johnny.

"What are you doing up forward there?" shouted the owner.

"Ready in a minute, sir," answered the paid skipper.

"What does he think we're doing — painting the figurehead?" muttered Augustus.

"Now up with her!" said the paid skipper.

"'Oh, we'll drink till we totter,'
Cried old Bishop Potter,"

sang Augustus, swinging on the halliard.

"Belay!" cried the paid skipper.

"Is that the Fort ahead?" asked the owner.

"Dead ahead," replied Johnny, "Do you think we can carry the reaching jib on the next leg?"

"Stand by the spinnaker!" shouted the owner. "Take it in!"

"Take in the spinnaker," from forward. "Leggo the guy!"

"Muzzle it! Muzzle it!" cried the old sailor.

"Fight 'em!" cried Augustus.

"Flatten in everything!" shouted the owner. "Another man aft on the main sheet."

"She's burying herself a good bit. Don't you think

she's lugging a little too much canvas?" inquired the Scoutmaster, as another sea swept the decks.

"How about setting that reaching jib?" asked Johnny.

"I am all wet and it's damn cold," declared Augustus, starting below to change.

"That toilet must be pumped sixteen times, until it sucks air," the owner called after him, "*Sixteen times.*"

"Who's that inshore of us?" asked Johnny.

"Now don't you think we each ought to have a separate hook for our oilskins?" began the Scoutmaster, "And then we would always —"

"Good Lord! It's *Ilex* — where'd she come from?" exclaimed Johnny.

"We'll take a long hitch out in the channel," declared the owner.

"Now it has been my experience," began the Scoutmaster, "That by hugging the shore and working the tides, you can —"

"My galley's a blinkin' mess, sir," wailed the Cockney cook, "And the pots his jumpin' hoff the stove."

"Turn off those lights!" bellowed the owner, "We've got to save electricity."

"Socko! She almost sailed through that one," said Johnny, "Now we're moving."

"Sock it to her," said Augustus.

"Hot Dog!" added the subaltern.

"It's no good, that kind of sunset," mourned the paid skipper, "And with a so low glass."

"See if you can get a little more on that staysail halliard," suggested the owner.

"Come on Bishop Potter," shouted Johnny.

"Who the hell belayed four halliards on this pin?" growled the old sailor to himself.

"I've fished this channel since a boy," the paid skipper confided to Augustus. "It's no place to be foolin' with."

"Oh, whiskey gave me this red nose,
Whiskey made me pawn my clothes,"

bawled Augustus, by way of answer.

"There's a big sea running," observed the Scoutmaster, sitting in the cockpit.

"It's no use, sir. My supper's all over the galley floor," wailed the Cockney cook.

"Now I always considered it of the utmost importance to have regular and hot meals at sea," began the Scoutmaster.

"There's my last dry pants, and my left boot's full," moaned Augustus.

"Turn out those lights," shouted the owner, "We've got to save electricity."

"The glass is falling pretty fast," announced the Scoutmaster. "Don't you think we ought to shorten sail a bit?"

"It's a dirty lookin' night, sir," put in the paid skipper, "It wouldn't do no harm."

"All right. Reef the mainsail," commanded the owner.

"Hell, we just got a decent sailing breeze," complained Johnny at the halliard.

"Lower away!" ordered the owner at the wheel.

"Lower away!" repeated the paid skipper at the reef tackle.

"Luff her up!" shouted Johnny, "She won't come down."

"He thinks he's sailing a Thames barge," Augustus observed.

"Where's the down haul?" asked the old sailor.

"He wouldn't know a down haul if one jumped up and bit him in the pants," remarked Augustus.

"Now then!" cried the owner, as the sail cracked wildly in the wind.

"Now then!" cried the Scoutmaster, searching for a reef point.

"This channel is no place to be foolin' around in," said the paid skipper, "It's comin' on to blow tonight."

"When the sun goes down clear as a bell
The winds comin' from the East, sure as Hell."

chanted Augustus.

"Crash!" said the cabin skylight, as a seaboot splintered through the glass.

"Why didn't you bring an axe?" yelped the owner.

"I can't get them side lights to burn," complained the Cockney cook. "The wicks is wet."

"That'll do the watch," sang out the owner, giving the wheel to Augustus.

"Hot Dog!" the subaltern responded, diving for the dry cabin.

"That toilet has to be pumped *sixteen times* — until it sucks air," mouthed the owner.

"What do you think of shaking out that reef at midnight, skipper?" inquired Johnny.

"What do you think of making the watches four hours on?" began the Scoutmaster, "And —"

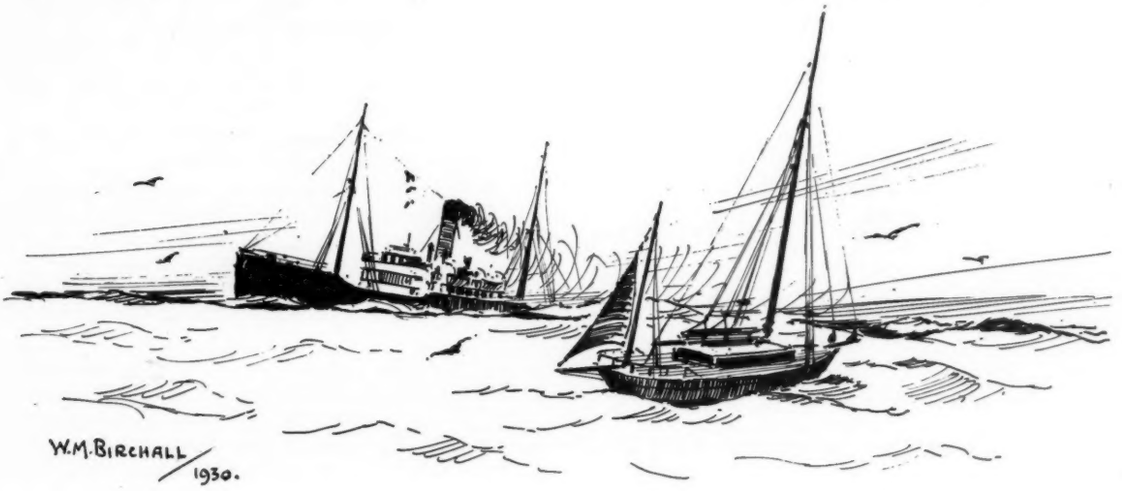
"What do you think of when you go to bed at night — you *Beasts?*" bellowed Augustus from the wheel.

"Hot Dogs!"

"Turn out those lights. We've got to save electricity."

And so on, far into that ocean race. . . .

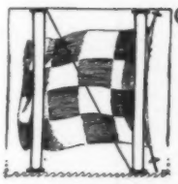
(*Not to be continued*)



Gambling With the Gods

Some Wrinkles in Weather Forecasting

By FREDERICK M. GARDINER



NO LESS an authority than Lecky, an authority, of course, not only on the weather but on navigation and other matters pertaining to the sea and ships, agrees that even the most delicate instruments devised by man are not as sensitive to approaching changes in the weather as the members of the animal kingdom.

Consider, for example, the cat. If you desire infallible prediction of the weather, I advocate that you procure a cat and install him (or her) on board your yacht; pocket your pride, stow your barometer, ignore the sea, sky, and shifts of wind, and confine your studies to kitty. It will, perhaps, take you a few weeks to learn to interpret his behavior correctly, but once you have reached a mutual understanding, I assure you, you need have no further concern about the weather. Six months on a tramp steamer developed my respect for kitty as a barometer.

Michelangelo McGukin he was called. Mike was coal black except for a white bib, and had a roving and diabolical eye. He was intelligent, always hungry, and weatherwise. If he squatted contentedly on the deck of a morning, and there casually peformed his toilet, you could safely air bedding, open hatches, and generally prepare for good weather. On the other hand, if he appeared unasked on the bridge, and proceeded to march back and forth, tail erect, you could be perfectly certain that some sort of "dirt" was due within the next twenty-four hours. Rain, without storm, he predicted by refusing to leave the saloon after a meal, unless forcibly ejected; and we learned, in time, to foretell the more delicate gradations in the weather by the more subtle changes in Mike's behavior. He never failed.

On a very large yacht one might, of course, carry a cow. I have not had the experience, but it is said that a study of the varying tones of a cow's mooing will produce astounding revelations as to the cow's accuracy as a weather prophet.

Then there are persons who, through long association with natural phenomena in a given locality, have become, in the opinion of their neighbors, "natural-born weather prophets." They are usually cautious in their predictions, and leave loopholes for themselves in case the Gods should turn against them. For the way of the weather prophet is hard. As a physician's diagnosis must always be correct, as a broker's forecast of market fluctuations is expected to be infallible, so a weather prophet's reputation may hang upon a single prediction, so far as his personal public is concerned. Down East lives a fisherman who has the reputation of never having missed the weather. He fishes, digs clams, and scorns "city slickers," the latter being his chief occupation. The most important "city slicker" of his acquaintance, the mayor of a large city, asked him on a dirty, gray, easterly morning whether there was a storm coming up. The "weather prophet" at the moment was in the act of carrying two heavy baskets of clams from somewhere to somewhere else. He deposited them carefully on the ground, looked slowly around at the sky, and turned politely to the mayor.

"Wal," he announced, "ef it comes this way, I guess we'll git it!" Without doubt his prediction proved correct.

An Interesting Study

Weather forecasting based on scientific information is not only of practical value, but is a fascinating study. There is little, as far as present knowledge goes, to be said on the subject of the weather which has not already been said. It is not my object to propose any new and startling meteorological doctrines. On the contrary, I have none to propose. I wish merely to point out certain sources of information, and methods of application, connected with doctrines already thoroughly accepted.

At its best, meteorology as applied to weather prediction is still far from an exact science. The cards are still fairly well stacked against the forecaster, and will probably remain so for some time. The strides, however, which have been taken in recent years in the collection of data to promote accuracy of prediction, particularly since the advent of aviation, have brought us to a point where information is available to the amateur which, when properly interpreted, will enable him to predict his weather with some success. In my studies on this subject, and in the analyses which have enabled me to prepare this article, I am indebted to the U. S. Weather Bureau, and particularly to the Meteorological Department of the Naval Academy at Annapolis. I cannot express too strongly my appreciation for the unfailing courtesy I have met.

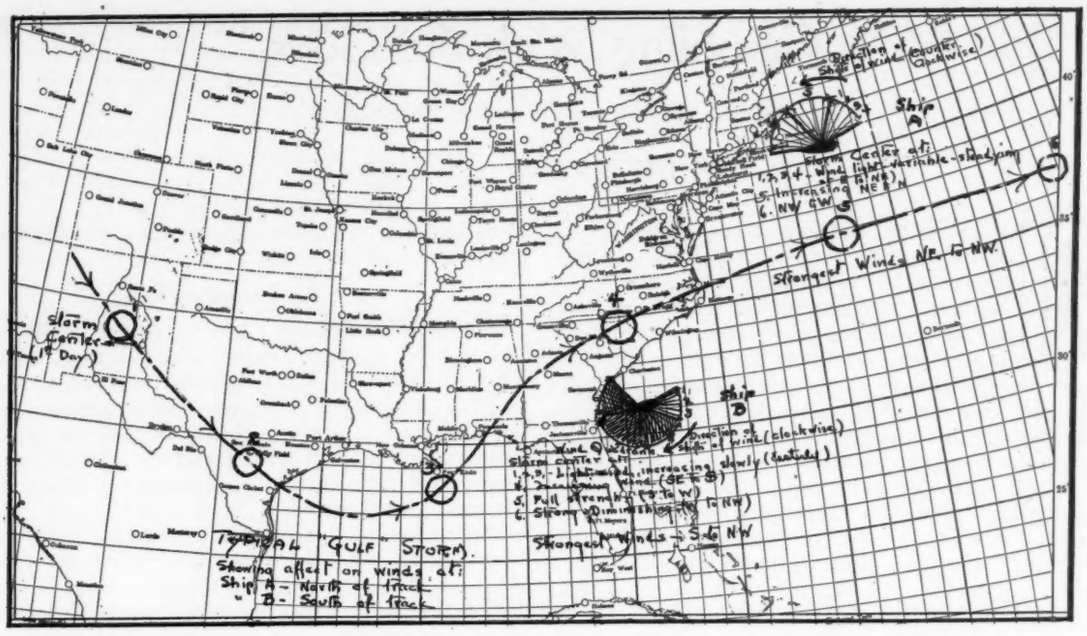
In order to treat, in as limited a space as is here available, a subject upon which volumes have been written, we must reduce it at once to the barest essentials. In other words, briefly; what the yachtsman wants to know; the most easily available sources of information; and the best methods of applying it.

The study of weather forecasting, and meteorology in general, may be made as absorbing as one desires. For those who care to make a more thorough study of it than is possible from the meager outline given here, I would suggest the following references:

Meteorology — A. E. M. Geddes
Our Weather — Charles Fitzhugh Talman
Aerology — Lieut. Charles Joseph Maguire, *U.S.N.*
Fogs and Clouds — William J. Humphreys
Weather Signs and How to Read Them — William Allingham
American Practical Navigator — Nathaniel Bowditch
(chapters on "The Barometer," and "On the Laws of Storms," etc.)
Wrinkles in Practical Navigation — S. T. S. Lecky
(chapter on "Ocean Meteorology")

Whether the yachtsman makes his prediction as a practical basis for ship movements, or purely as a study, it is safe to assume that his conclusions will include: Force and direction of wind; probable shifts of wind; condition of the sky; presence or absence of rain; presence or absence of fog. That might be called "what every yachtsman wants to know." To reach his conclusions he must first be familiar with certain fundamental laws, the most important of which may be summarized as follows:

1. "Disturbances," either cyclonic or anticyclonic,


Storm Center (1st Day)
Ship A
Ship B
Strongest Winds NE. to NW.
Typical "GULF" STORM.
Showing effect on winds at:
Ship A - North of track
" B - South of track

Wind conditions which may be expected on approach of a low barometric disturbance on a ship to the north and on a ship to the south of the storm track

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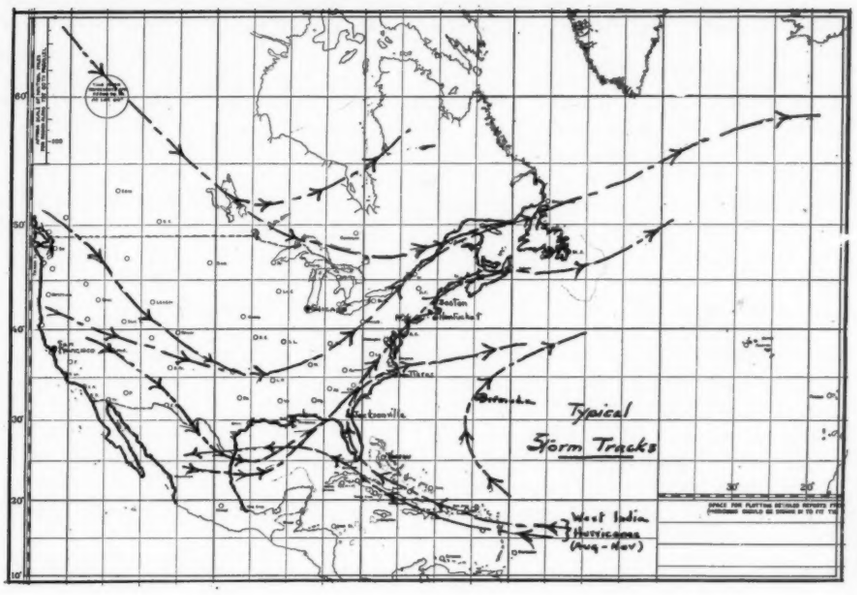
Typical tracks followed by storms in this country



follow in general the direction of the major air currents.

2. Winds blow *from* an area of high barometric pressure, *toward* an area of low barometric pressure.

3. Normal barometric pressure varies over the surface of the earth. Certain "permanent" highs and lows exist, the location of which may best be found on the Pilot Charts published by the U. S. Hydrographic Office. Any considerable deviation from the normal pressure in a given locality indicates the approach of a coming disturbance.

4. The passage of a low area to the north of your position, brings clockwise shifts of wind; passage to the south of your position brings counter-clockwise shifts.

5. Clouds and rain are usually in advance of low pressure areas, and occasionally (generally in the form of short, sharp showers) ahead of the crest of a high area, particularly if the cloud formation is dense, and the drop in temperature considerable.

6. Facing the wind, the lowest barometer will be to the right in the Northern Hemisphere (left in the Southern Hemisphere). If the low area is in your vicinity the angle will be about 90 degrees, the angle increasing as the distance from the low area increases.

7. The usual cause of fog is the passage of air from a warm to a cooler surface. Even under such conditions, however, fog is not likely if the sky is overcast or very cloudy, or if there is much wind.

8. The effect of disturbances on the conditions in your locality will depend on:

(a) Distance to the center
(b) Bearing of center
(c) Direction of movement
(d) Speed of travel

To some, this will all appear so simple, and of such general knowledge, as to cause its inclusion to be almost an insult to the intelligence. To omit it, however, incomplete as it is, would not be fair to the few who may use this as an introduction to the study of the weather.

With the knowledge of fundamentals above outlined, or better, with the knowledge which may be gained from a study of the brief chapters on weather in either Bowditch or Lecky, information as to the location of "lows" and "highs," and their general direction of travel, will enable you to plot your own weather maps, and from them to predict local weather with some confidence.

Sources of Information

I shall not attempt to discuss the relation between cloud formation and weather prediction, for that is a

study in itself; nor shall I touch upon the many old "weather sayings," more than one of which has a perfectly sound scientific foundation. A few years ago, "weather sayings," such natural phenomena as could be observed, the Pilot Charts, and the barometer, constituted our entire means of forecasting the weather. The development of radio weather broadcasts, and the gradual realization by newspaper editors that accurate weather data has become an important news item, have made available to the yachtsman two valuable sources of information.

Offshore forecasters on board yachts without radio, or cruising in waters beyond their radio receiving limits, must still, of course, rely upon the old methods. These are not, however, to be scorned. Particularly is the much maligned barometer a far more accurate "forecaster" than some will admit. A barometer in proper working order is, in fact, infallible; it is only our interpretation of its fluctuations which fails. Sum it up thus: "Beware a high, beware a low; when either comes, get down below!"

The eight fundamental laws already given apply, it goes without saying, whatever your position on the earth's surface may be. For a more thorough explanation of ocean forecasting I must, for lack of space, refer to the volumes suggested as references.

Charting the Weather Map

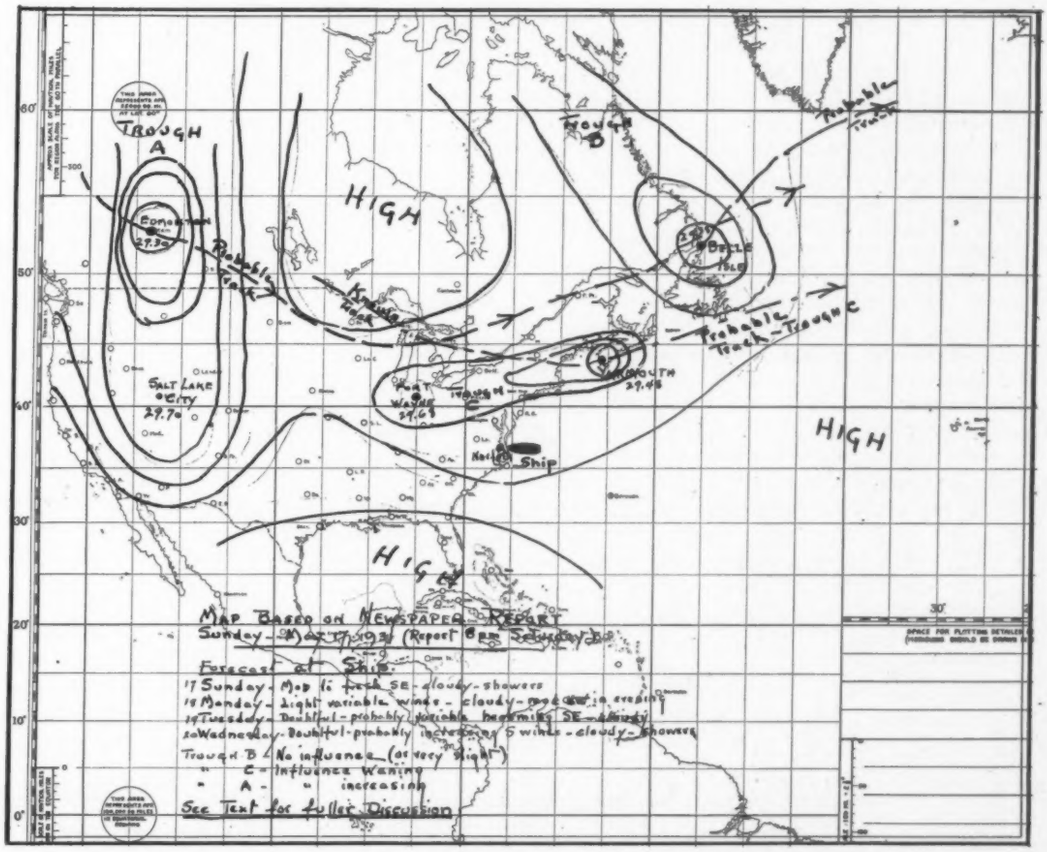
I cannot urge you too strongly to chart your own weather maps, not only for accuracy of prediction, but for your own satisfacton. For the fun of it, if you wish. Blank "Meteorological Plotting Charts" may be procured, within reason, by writing to the Hydrographic Office at Washington; or you may purchase, at any stationery store, blank outline maps of the United States and adjacent waters; or, if you are graphically inclined, you may draw your own outline maps on a blank sheet of paper. I can think of two or three other ways of satisfying the demand, but that should suffice.

While it would seem, at first thought, that the best method of applying the information received through the newspapers and radio broadcasts, would be to accept their forecasts at face value without the bother of plotting your own maps, it will be found, in the long run, not only that the maps will amplify the forecasts, but that you will be able to foresee conditions for your locality which are not covered in the more general forecasts.

There are a number of newspapers and weather broadcasting services, which give sufficient data daily to enable you to chart your maps. The radio programs in the newspapers give any number of weather broadcasts, scheduled at various hours and stations. The most complete weather broadcast is, of course, that of the Naval Radio Station, Washington, about 10 a.m., 3 p.m., and 10 p.m., Eastern Standard Time. There are also a large number of Airway Weather Broadcast schedules, available for radio sets which can receive at frequencies between 200 and 400 kilo-cycles. These are under the direction of the Aeronautics Branch of the U. S. Department of Commerce, which will furnish a list on request, and are valuable to yachtsmen as well as aviators.

For the purpose of simplifying the charting of your weather maps, I have drawn three charts, on forms supplied by the Navy, one of which shows the more typical tracks followed by storms in this country; one

(*Continued on page 101*)



A weather map based on a newspaper weather report and the predictions drawn from the data

Standing Rigging on Small Yachts

Some Hints on the Details of Rigging and Gear for the Modern Yacht

By CHARLES G. DAVIS

IN THIS age of steel, when wire rope is manufactured in any size and for any service, one wonders how the old-time sailors ever kept the masts of their vessels in them when supported only with hemp ropes. Constant vigilance of mates and boatswains was all that held those lofty sticks in place. Many a ship had to be put on the other tack that the slack might be pulled out of her shrouds. More than one vessel has been fitted with new hemp rigging at some ice-bound New England port and has put to sea and stretched away to the southward. In the warm rains of the Gulf Stream and under the hot sun of the Tropics, her rigging thawed out and stretched so suddenly, and so much, that all three masts have gone by the board in the first blow. If you have ever rigged a small boat with hemp or manila you know how hard it is to keep shrouds and stays taut. Even when the initial elasticity of new rope has been pulled out of it by a good stretching, it will tighten up in wet weather and hang in bights on a dry, sunny day. Watch the clothes line in the back yard (if you are not an apartment dweller) and see what happens to it.

The "NIKE" with one hemp shroud.

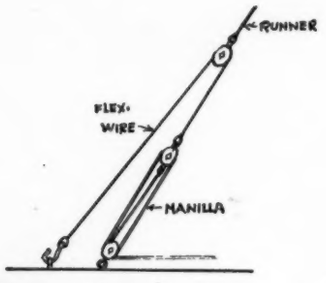
This habit of hemp is the reason that so many of the old-time boats, such as cats, New Haven sharpies, and small fry with temporary rigs — ship's boats, for example — had no shrouds at all. Even the little pilot schooners followed this fashion or, as a seafaring friend of mine told me, had only a single shroud to a side. "I've gone out to sea from Tybee Roads in the little pilot schooner *Nike*," said he, "carrying a clubtopsail on the main and only one hemp shroud to hold the mast in." In those days sails were smaller in proportion and the spars carried the stress; today the mast is but one member of a truss. It takes the down thrust while the side stress is taken by the wire shrouds and backstays. In 1820, and earlier, Baltimore schooners of 80 to 100 tons had one main and two fore shrouds to a side. Some of them were captured by the British in the War of 1812 and refitted at their navy yards. They used to raise the bulwarks, stiffen the hulls and fit four or five shrouds to each mast, setting them up so tight that they were like the small-waisted women of the day. The women were "laced so tight that they couldn't breathe," and the sailing qualities of the schooners were ruined.

In small boats, with no shrouds and with masts a bit light and limber, the halliard of the sail was sometimes led forward to serve as a support to the mast. It would be set up to a ringbolt in the inner face of the stem, or rove through a block hooked into this ring and belayed aft, where it could be let go handily. Thus the halliard held the head of the mast in place and kept it from bending aft when the sheet was hauled taut. In the luggers and spritsail-rigged pilot boats of the Gulf of Mexico the halliard was made fast to the weather rail to act as a shroud. This was done, however, only when the boat was to make a long run on one tack; the halliard would have to be shifted too often in making short tacks. With a dipping lug the halliard could be shifted to windward as the boat came about. But enough of history! Let's get down to the present day.

Halliard lead forward as stay

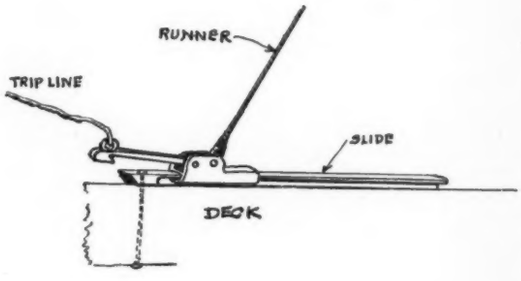
Halliard lead to weather as shroud.

If you have a small sail boat, say about 15 feet long,



OLD STYLE

A headstay and a pair of shrouds.



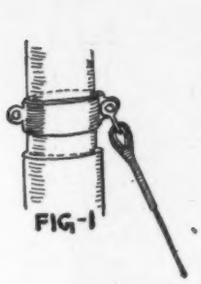


FIG-1

FIG-2

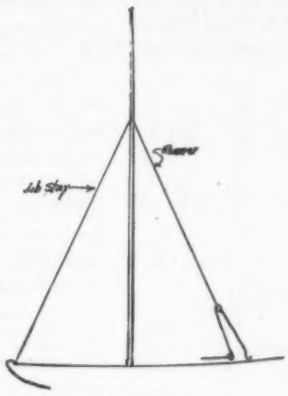
FIG-3

which you want to rig as a sloop, with a pair of shrouds and a headstay, how do you go about it?

The first thing to do is to find out just how much wire rope you will have to buy, and this depends on a number of things. You will have to decide how the shrouds are to be attached to the masthead and also to the hull of the boat. Are the upper ends to be fitted with a thimble shackled to an eye in a withe or iron band (as in Fig. 1), spliced in a close eye fitted tight around the mast and supported by a shoulder (as in Fig. 2), or lay diagonally across the mast, held up by shoulder cleats and with a long eye splice in the end (as in Fig. 3)? Is the lower end to be fitted with a thimble and set up with a lanyard (Fig. 4), or spliced into a turnbuckle (Fig. 5)? Don't guess at the length of rope needed to make the eye splice around the mast; take a piece of stout cord and measure it accurately, holding the cord at the angle which the shroud will take.

FIG-4

FIG-5



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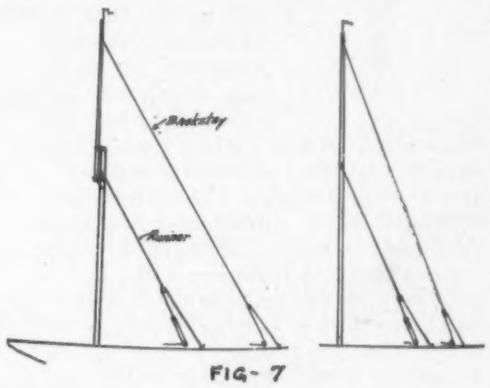


FIG-7

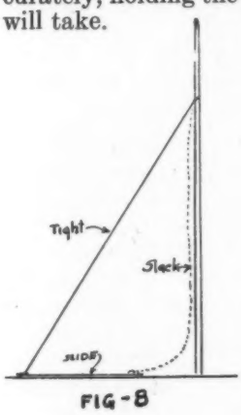


FIG-8

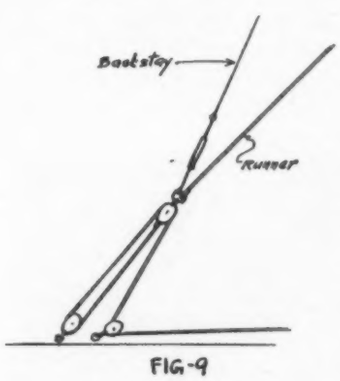


FIG-9

Unless the boat is already fitted with chain plates for the shrouds, and an eye bolt or eye plate forward for the headstay, you will have to decide on the angle or lead of the stays to give the proper support to the mast. The shrouds should be a little abaft the mast, for while their main function is to take the side stress of the stick, they should also exert enough back pull to keep the jibstay taut. A jib sagging off to leeward on a slack stay does more to hurt a boat's sailing than any other fault she may have. Yet if the shrouds are put far enough aft to ensure a taut jibstay, they will prevent the main boom from swinging broad off when running before the wind. This is not important except in a racing boat. For that matter, the new Marconi mainsails cannot be slacked off as far as the older gaff-headed ones. When two or three shrouds are fitted, it has been found advantageous to lead the lower one, which takes the pull of the jibstay, the furthest aft.

When the shrouds are kept almost abreast of the mast, a temporary stay, called a runner, is fitted. This is led from the mast close to the point of attachment of the jibstay to the deck aft, making about the same angle with the mast as the jibstay (Fig. 6). It is set up by a tackle whose lower blocks hook or shackle into chain plates or eye bolts. Formerly, the runner on the lee side was unhooked and the wire pendant carried forward and temporarily secured close to the aftermost shroud, the weather runner being set up taut to take the pull of the jib. Nowadays, particularly in the smaller racing classes, an ingenious device is used to take the lower end of the runner. A brass track is fastened fore and aft to the deck near the side of the boat. On it slides a strong casting to which the runner is secured. The length of the track is adjusted so that when the casting is forward the runner is slack enough to allow the boom to swing broad off (as in Fig. 8). By pulling it aft the runner is tightened and a catch locks over the end of the track. A pull on the trip line releases it instantly, saving the precious seconds spent in casting off the runner tackle from a cleat. It also saves the time spent in winding the rope around the cleat in belaying, with the added advantage that it does not slip as a rope often does when hurriedly made fast. In keen racing, as when jibing around a mark, there are many things to be done and few hands to do them. Time saving gadgets such as this are of incalculable value.

A runner goes to the hounds of a boat with a fidded topmast, or part of the way up a Marconi mast; a backstay goes to the head of the topmast or to the top of a pole mast. The short names are used for these ropes, though, strictly, they are a masthead runner and a topmast backstay.

A boat with a fidded topmast has to have both runner and backstay, the former to take the pull of jib

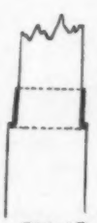


FIG-10

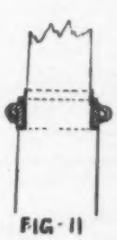


FIG-11

FIG-12

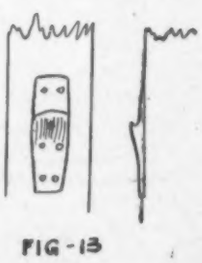


FIG-13

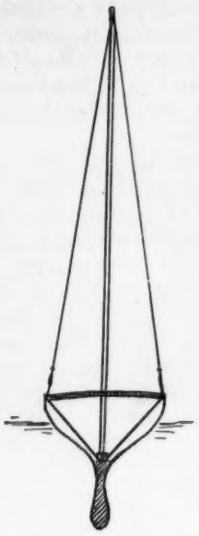
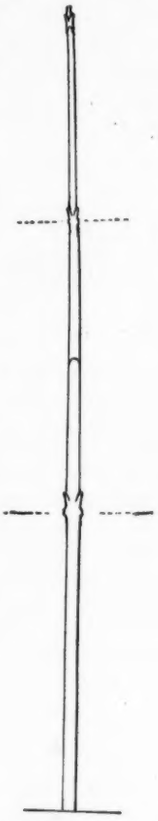


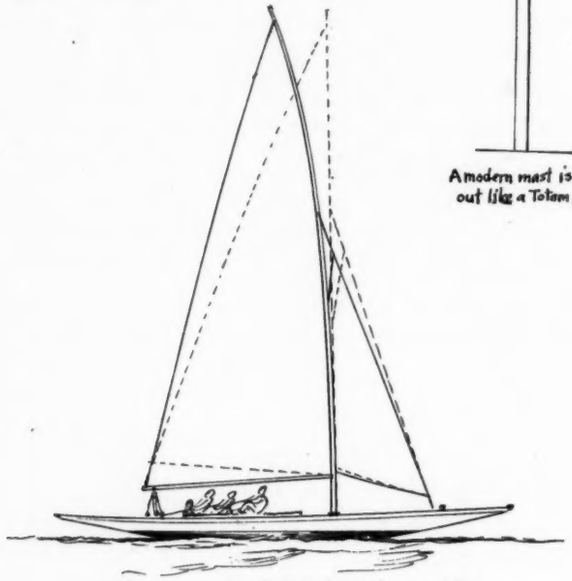
FIG - 14.

and staysail, the latter to hold the topmasthead when the jibtopsail is set (Fig. 7). In boats with the new Marconi rigs, the runner and backstay are frequently coupled together and hove taut by one tackle, thus making one less rope to tend. The two wire ropes are joined to a stout ring on the upper block of the purchase, the backstay being fitted with a turnbuckle that the tension may be adjusted so that each takes its proper share. The only way to tell whether a shroud, stay, or backstay is too slack or too taut is to sight up along the mast when it is blowing hard; any bend in the mast will be apparent and you can tell whether to set up or slack away, as needed. It will be advisable, however, to make any changes found necessary when the boat is at anchor rather than when underway with considerable strain on the spars and rigging. Fig. 9 shows the arrangement of runner and backstay on a modern yacht. The upper block is six or eight feet from the deck.

Where an eye band is used aloft to hold the upper ends of shrouds on stays, the down pull on it is apt to cause the hard lower edge of the iron to cut into the wood under it. In spite of carefully making the inside of the band tapered like a funnel, so that it will jam itself tight in service, the wood under it is bound to be compressed so that the band loosens and cants, the lower edge cutting into the mast. About 1880 the approved remedy for this was to fit a sheet iron, copper, or brass funnel under the band with its lower edge turned out, as in Figs. 10 and 11.



A modern mast is carved out like a Totem pole.



Is it any wonder that the head stay stretches - when all hands and the cook haul the main sheet.

With the eye splice shown in Fig. 2, the splice has a tendency to cut into the soft wood of the spar, even when a rope grommet is fitted under it, as the shroud turns at almost a right angle where it goes around the shoulder. To obviate this, the long loop eye was adopted when big rigs and light gear aloft came into vogue. With this arrangement the shoulder cleat, of hard wood, took so great a proportion of the stress that it was apt to split (Fig. 12). The cure for this was cleats of brass or other metal (Fig. 13). These are let into the mast at the lower end so that the fastenings do not take all of the strain, a metal bolt having a way of cutting into soft wood.

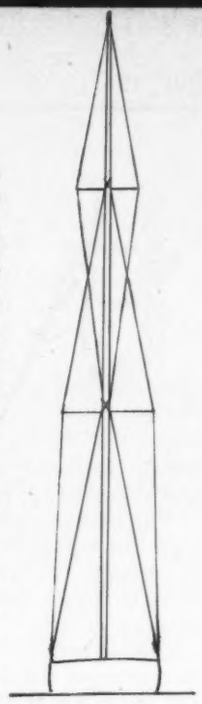
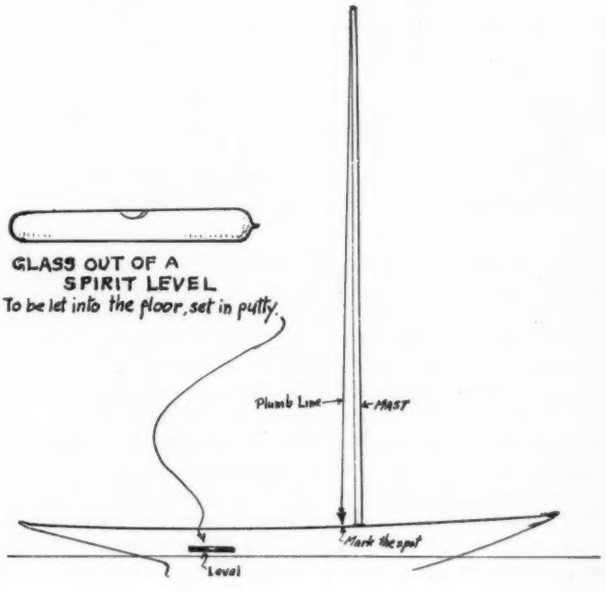


FIG - 15

Spars were spars in the old days, with their fittings put on where needed to support the rigging. But experiments never cease in the game of yacht racing and when the Universal and International Rule classes became popular, spars changed from round sticks with a certain taper to hollow wooden carvings. They may be elliptical in section, pear-shaped, box-shaped with rounded corners, and are built up of many separate pieces of spruce like the fished spars in the days of wood and hemp. Some bend at the top like a fly rod with a husky trout pulling on it, and all are fashioned with bumps and corns so that there is more wood wherever a shroud or stay is spliced around them, with shoulders to give support, all carved out of the wood of the masts themselves.

Staying one of these masts is a job for a bridge engineer, as they are figured close to the limit in an effort to save weight. Sometimes they are figured a little too closely and the whole rig goes by the board, but yacht racing is like a great experimental laboratory of the sport. New ideas are constantly being tried out, for most of our racing is in sheltered waters with help at hand to tow in the disabled experiment that was figured too closely, so that there is little danger, plenty of fun and some instructive breakdowns.

(*Continued on page 108*)



Photos by M. Rosenfeld

The fleet ready to shove off from the builder's yard at North Tonawanda for the 490-mile cruise to New York

An Early Spring Cruise

From Lake Erie to New York

By HERBERT L. STONE

IT WAS a beautiful spring morning in early May when I climbed aboard the power cruiser *Nelmar* and stowed my duffle, as we nautical sharps like to express it, below. The sun was shining out of a cloud-fringed sky and the wind was piping merrily out of the west, though its direction was a matter of indifference on this occasion, for there was plenty of power stowed away beneath the cockpit floor and our course lay between the close-lying banks of the Barge Canal, where it stretches eastward through the highly cultivated fields and orchards of Western New York on its way to join the Hudson above Troy, some 350 miles away.

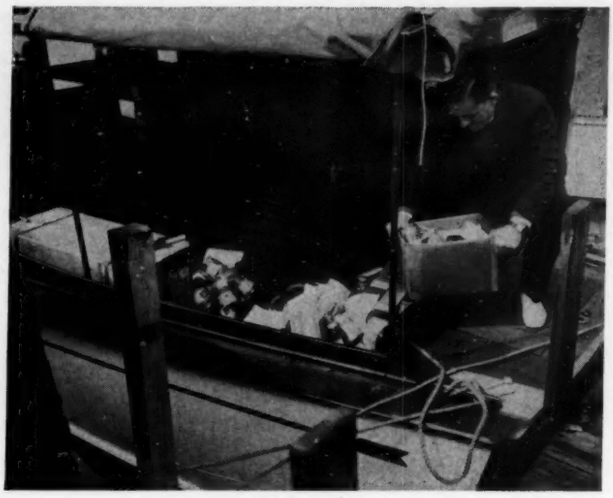
It was the first time I had seen the canal since it had been modernized. I was familiar enough with the old canal, with its lumbering horse- or mule-drawn canal boats and its hundred-foot locks, worked by man power alone; but this new waterway, with its eleven feet depth of water, its 326-foot electrically operated locks, and its traffic of Diesel and steam barges and tugs was to be an eye-opener. After five days on it I can recommend it to the boatman who likes to cruise with land on both sides of him, and who wants something else in his range of vision besides water.

But to get back to North Tonawanda, where I joined up for the cruise to New York, which was to be made in squadron, twenty-three boats strong. The *Nelmar* was a 30-foot Richardson cruiser owned by H. L. Hughes and powered with a Gray-Six. On this particular occasion she was the flagship of a fleet of new cruisers, all by the same builder, which had been turned over to their owners the day before. As all were bound for their home ports on the coast, they were going to cruise in company. No better opportunity could be had, perhaps, to let the various skippers get acquainted with their boats, for ahead lay 350 miles of sheltered water with 35 locks to negotiate, in each of which the little boats required careful nursing. While a number of the skippers were old hands at handling a power boat, many of them were making their first attempt to handle anything bigger than a rowboat or an outboard, having just bought their first cruiser. It was to be expected, therefore, that there would be some mis-handling and confusion at first. In this we were not disappointed, but by the end of the second day most of the owners had their boats licked, and could take them into a lock 40 feet deep, shoot them into position and get them tied up like veteran helmsmen, while before the Hudson was reached all hands could qualify. In fact, before leaving the canal the entire fleet would pass through a lock in fifteen to twenty minutes, without a hitch.

The big 326-foot locks of the new Barge Canal held the entire fleet of twenty-three cruisabouts

There were twenty-two cruisers in the fleet, all but four of them 30-footers, the others being the smaller 24½-foot "Baby" cruisabouts. The twenty-third member of the fleet was the supply boat *Commodore*, sent along by the Richardson Boat Company to furnish gasoline to the squadron, as it was figured that a

fleet of this size would have drained the tanks of most of the filling stations along the route. Every night, after the boats were tied up, the *Commodore* would ease in alongside first one and then another until every boat was "gassed" without the delay incident to stopping during the day's run. It was an excellent arrangement and added much to the pleasure of the cruise, to say nothing of the speed.



Stocking up for the week's cruise

Although all stores and crews were supposed to be aboard the night before the start, there were the inevitable last minute delays and Saturday morning, May 9th, saw much hasty stowing of provisions, supplies and duffle, so that it was 9:30 A.M. before the fleet cast off mooring lines and pulled out into the stream on a signal from J. E. Gillespie, senior officer present, and in charge. Forming in column, each boat in its designated position, the squadron proceeded at ten knots' speed and headed eastward.

At the first lock there was some confusion in handling boats and lines, and the better part of an hour was spent in getting through. The big locks would take the entire fleet, the boats tying up four abreast, the inner ones being made fast to the outer pair, from which the lines to the locks were handled. As some of the locks had a drop or lift of 40 to 45 feet, care had to be exercised.

South of West Point the clouds broke away long enough to give us a glimpse of the mountains

In line of column on the canal the twenty-three Richardson Cruisabouts covered about a mile of water

It was 7:30 that night when the fleet pulled into the Rochester terminal, having taken ten hours for the run of 81 miles, during which two locks were negotiated. There were no stragglers, though there was nearly a mile of water between the flagship at the head of the column and the last boat.

The fine weather of the start was not to last, and the afternoon of the second day brought showers and squalls that were to continue all the way to New York, with the thermometer hovering in the forties and fifties. But most of us were afloat for the first time this year and even the rain and the low temperature could not dampen the enthusiasm.

We were underway at 8:45 next morning with the prospect of nine locks before us and a run of 68 miles to Weedsport. All went smoothly until entering lock number 29, at Palmyra, when a vicious squall hit the fleet before some of the boats had made fast. Blowing straight into the lock, the wind bumped 'em around a bit until extra lines could be made fast, but no serious damage resulted. It turned out to be a long day's run, and it was 9:25 that night before the tired crews tied up their boats in the rain at the basin in Weedsport.

The canal runs through the center of Oneida Lake, which is some 25 miles long, and when this was reached the next day the temptation to "open up" on the first large body of water and see what the boats would do proved too great to be resisted. As some of the boats could do 16 to 18 m.p.h., the fleet was soon scattered, and went racing through a heavy thunder squall, to meet again and take formation at the eastern end of the lake, where the canal proper starts once more.

Rome was the destination that night, and it was 7:30 before all hands were tied up, all tired out. From Rome to Troy the country became more and more hilly, and the locks deeper. The lower Mohawk was in flood, and as this tied up most of the commercial traffic it left the locks free for the fleet, and fast time was made, with a two-knot current under us most of the way.

At Waterford, where there are five locks with a total drop of 168 feet, the fleet was put through all five in one hour and fifty-nine minutes, the lock tenders expediting the passage in a handsome

(*Continued on page 118*)

How to Burn Up a Boat

By WILLIAM H. TAYLOR

FOR years I have had some decided ideas about fires on motor boats, and since, during the past few weeks one boat has burned up under me and another, which I formerly owned, has presumably blown up and been lost with all hands, I claim to be something of an expert on the subject.

I have always maintained that gasoline fires are caused by poor installations and careless operation, and can be pretty completely guarded against. I still think so. I always assumed that when a boat caught fire the procedure was perfectly simple — you just grabbed an extinguisher and jumped in and put the fire out. I'm not so sure about that, now.

Hiandry was a 30-foot raised deck cruiser, very much like a lot of other 30-foot raised deck cruisers. I don't know who built her, but she was not a stock boat. Her motor was a four-cylinder Universal, and the fire was the fault of neither the boat nor the motor. I had bought her on the beach during the winter and fitted her out, unfortunately, with more attention to paint and varnish than to mechanical considerations. Time was short, the weather generally poor, and I needed her in my business as quickly as I could get her.

She was a fire trap and I knew it. Her two gasoline tanks were above the level of the cockpit floor, but instead of carrying the floor across, the builder had left the space under them open so that if any gasoline spilled out of the tanks it would run down into the engine room with a minimum of delay. The fill holes in the tanks were too small, and conducive to such spilling, and they were not carried up to the tops of the seats built over the tanks, as they should have been. The gas line rambled around the bilge and ended at an automatic, electrically-operated fuel pump which sent it into the carburetor. I distrusted this pump, and doubted if it was necessary except in a heavy sea, when the tanks were nearly empty. I had planned to remove it, try to do without it, and, if unable to dispense with a pump, to install some kind of mechanical pump. She had no backfire trap on the carburetor, and there was no drip pan under the carburetor, fuel pump, etc. The engine was under a bridge deck between cabin and cockpit — a miserable place to get to, at best.

I had planned to fireproof the rig as far as possible, but in the meantime the boat was in the water, the engine in working order, and I had to get across the Sound. I did, and was bound back home when the motor, which had been running like a clock, suddenly stopped. I guess the timing gear went off. Nobody is ever going to know, and it doesn't matter.

We conjured around some time checking up on wiring, spark plugs and such things, and finally got a feeble kick out of the motor. Meanwhile, though the motor was not running, we had the ignition switch on, and the fuel pump was still pumping. We discovered this when we noticed the gasoline was squirting out of a joint in the lower part of the carburetor at every pulsation of the pump. Naturally, I shut off both gasoline and switch, and sniffed around the motor. But there was a fine draft of air through the bilge, due to a big ventilator and several open ports forward, and a couple of hatches open aft. So there was little odor of gasoline, and we concluded — it was getting dark — that very little had leaked out.

Having gotten a kick or two out of the machine, we set things up all around, turned on the gas a little way, went up on deck and stepped on the starter. Twice she responded with a few feeble kicks. The third time I stepped on the starter there was a dull roar from the engine room, a flash and a puff of smoke below.

I looked in just in time to see Allan, who had been squatting in front of the motor to observe what went on, land on his back in the forward end of the cabin. Reflex muscular reaction, rather than the explosion, probably did that, though he still isn't sure. He recovered at once, unhurt, and bounded out of the companion, trying to grab a hand fire extinguisher as he came. The gun stuck and he left without it.

A second extinguisher was on deck, and I grabbed that. This seemed to take hours — probably it took ten seconds — and in that time the cabin was full of thick, black smoke, with some flame visible around the after end. Now the place to get at the fire would have been from the cabin. (Very simple — just run down and put it out.) But the only way in and out of the cabin was over the blazing engine room, and incidentally, over the top of a full gasoline tank. No, thank you! The cabin was so full of smoke that you couldn't see anything in there, and if a man got a lungful and passed out in the cabin it would be no small or safe job to cart him out again. However, in the after side of the bridge was a square window, and in the cockpit floor a circular hatch. Plenty of fire to keep a man interested was visible through these, and I got the fire gun in action.

But now the fine draft through the boat, that should have wafted all the gasoline fumes away, turned and bit us. We had anchored to work on the motor, and she lay head to wind. All the smoke and most of the carbon tetrachloride gas from the extinguisher blew merrily out through these openings into my face. I could pump the liquid onto a patch of flame and put it out, but there were too many patches, and when the gun was empty the fire was as bad as ever.

Meanwhile, the other boys had reached into the cabin and yanked the other extinguisher loose. This one had been aboard the boat no one knows how long. It was full — I'd refilled it in the winter before lighting the stove for the first time — but it didn't work freely. You could hardly pump the handle up and down, let alone direct a powerful, well-aimed stream at the blaze. Also, I was just about as full of smoke and fumes as one man can get, and there was no use in anyone else trying to help because only one could get at the thing at a time.

Half-empty, the gun stuck for good, or my strength gave out. The fire was thriving nobly under the treatment. Finally, I slammed the extinguisher down and staggered back, half-conscious, to the stern, where the other two got a life preserver on me, and I got my head up in the air. I could taste carbon tetrachloride for three days.

By this time our state of mind was much the same as that of the hero of the old song — "You stick to the ship, lads, I'll save me life." There was obviously nothing more we could do about the fire. The gasoline which had been pumped through the carburetor joints was ablaze on top of the bilge water, pretty well the whole

length of her. Flames were licking up in the cabin and through the hatches aft. There was no chance of confining the blaze, or of doing anything else as far as we could see. Since then I have thought of several things we might have done if we had been able, but I doubt if any of them would have saved her.

So we climbed along the rail onto the bow, mindful every moment of forty gallons of gasoline in the tanks, the ends of which were alongside the motor and enveloped in flame. Once forward, out of the smoke and to windward of the tanks, we breathed deep and began to calculate the distance to Huckleberry Island — not a very long swim, but it was getting dark and the water looked cold.

At this point a green light and a patch of white paint loomed in the direction of New Rochelle — a motor boat, way to leeward of us. We whooped and howled, but she held on. Then, as she crossed the trail of smoke to leeward of us, we saw her round up and head for us, and five minutes later, dry shod, we stepped aboard the motor cruiser *Lillian*, Captain Mount, from College Point, and were damned glad to see her.

Lillian backed off abeam and dropped her anchor. Two of her crew piled into a skiff with a couple of big extinguishers and rowed over to *Hiandry*. Presently they came back — she was going too strong to risk running alongside. We got the anchor and headed to windward, mindful of the gasoline tanks.

A man's judgment of time is uncertain in such circumstances, but I should say it was three-quarters of an hour from the first puff until those gas tanks blew. If we had known how much time we had we might have tried using the buckets after we got our breath, but we didn't know, and it wouldn't have done any good, anyhow. The last we saw of her — we were at least half a mile to windward then, was a column of fire sixty feet in the air, and then sudden darkness where the blaze had been. I guess she sank. I don't much care.

Such was the end of *Hiandry*. Maybe the name was bad luck. Any one of a dozen things would have saved her, but none of the dozen things were present. In another week or so I would have made several improvements which would have eliminated the causes of this particular fire, at least. It's unnecessary now.

There is no question but that the electric fuel pump, operating while the motor was not running, caused this particular fire. What spark set it off we do not know — probably an arc in the starter, which was so close to the carburetor that, with gas being forced out of the carburetor and presumably partly vaporized by the force, it was an explosive combination. But you can't eliminate sparks entirely around a gas engine, especially in damp weather. A backfire would have done it — I cursed the man who had sent me a backfire trap that didn't fit the day before — but it did not sound like a backfire.

It was an expensive experiment, but I've learned some things from it which I shall incorporate in my next motor boat. Of these more later. A word, first, about *Sea Fox*.

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The Loss of the "Sea Fox"

The 35-foot auxiliary Friendship sloop *Sea Fox* put out of City Island with seven people aboard a week after our little party described above. A few days later one of the seven, dead in a life belt, was picked up off Darien, and since then two more bodies have been found. A couple of hatch covers, some cushions, another life belt, and other odds and ends that may or may not have come from her have also been found.

I owned *Sea Fox* for two years, and when I picked up a paper in New Bedford and found she was missing just a week after my own fire, my back hair stood up on end — and it hasn't gone down yet. It was blowing fresh westerly, that day, and many theories have been advanced as to what happened to *Sea Fox*. I know the boat, and no 30-mile westerly breeze that ever blew down Long Island Sound could have drowned her. I've taken her through conditions many times more strenuous than those; that boat would bring home the most inexperienced sailor, whether he liked it or not. Mr. Snedden, who had her, is said to have been a good seaman.

Sea Fox was not capsized or swamped. If she had hit a ledge anywhere most likely her crew would have been saved, and, in any case, she would have been found. If she had burned in the narrow Sound off Darien someone ashore would have reported the fire or the smoke. (Plenty of people saw *Hiandry* go up, though nobody except the crew of *Lillian* did anything about it.) Bowling along before a strong westerly, she might have hit one of the Sound's big floating timbers or telegraph poles end on, poked a big hole in her and sunk quickly.

But I think she blew up, and this is supported by the report of one man who said he saw a flash out in that region that day.

Sea Fox was not as ideally rigged to catch fire as *Hiandry* was, but she was bad enough. Her gasoline tank filled under the deck, aft, and drained into the bilge like *Hiandry's*. The motor was under the cockpit. The feed pipe from tank to carburetor ran along over her sheathing. The deep hold under the cockpit floor was used for stowage, and a heavy, insecurely-stowed object, shifting around down there, might have hit the pipe and started a leak. There was no ventilation worth the name under the cockpit, which was bulkheaded off from the cabin.

It would have been easy, with even a small leak, to fill the big hold under the floor full of a highly explosive mixture. Given such a condition, anything might have set it off. *Sea Fox's* motor was always a sort of pyrotechnic display in damp weather. You couldn't keep it dry to save your life, and sparks ran all over it. Or, if the motor was not running (as it probably was not), a man with a cigarette in his mouth, opening a hatch to get at something stowed below, would have done the job just as well. *Sea Fox* was a pretty sound ship, but she was twenty years old, she was full of pig iron, and a bad explosion under the cockpit would have opened her up and sent her to the bottom like a codfish sinker. The fact that only one of the three bodies found up to the time of writing had a life belt on indicates that she went quickly.

Nobody knows, of course, what happened to the old packet, but I will lay two against one that if they ever find her it will be shown that she blew up.

\+ + +

Now as to the moral of all these horrors. In the first place, you will observe that all the things that were wrong with both these boats, as regards fire risk, were exactly the things that the better designers and builders of motor boats and auxiliaries have been hammering away at for years. In my case, at least, I knew I had a fire hazard under me, but impatience led me to take her out before I had eliminated these hazards. And a little less haste and more caution in tinkering with the broken-down motor might have helped. Once the fire started, I doubt if anything we could have done with the equipment we had would have saved her.

I haven't in the least been cured of owning gasoline boats, and will have another if I can ever scrape together money enough — *Hiandry* wasn't insured. Here are a few of the things that my next boat will have, if I stick to my present resolutions.

All gasoline tanks will be above decks, or, at least, above the cockpit floor. They will be in compartments which do not open into the inside of the hull at any point except where the fuel line goes down through the deck, and this will pass through a tight fitting. Between this fitting and the tank will be a quick-acting valve which can be closed by a handle in the cockpit with one twist, or one kick. It will be kept limber by constant use. They will be copper tanks with fill-holes of hand-plate size, carried up to the top of the tank compartments so that any spill-over runs on to the deck, and not below. The tank compartment, in a boat of this size, would probably form a cockpit seat, as in *Hiandry*. The top of the compartment will be easily removable, and so rigged that one end of it may be lifted, the compartment filled with extinguishing gas, and the top slammed down again in case of fire. It should drain overboard.

There will, of course, be a backfire trap on the carburetor. There will be a copper drip pan, covered with flame-proof copper gauze, and what a drip pan! Not just a little gutter to catch such gasoline as happens to drop in the right direction, but a big one with high sides so that no gasoline from the carburetor, or from the fuel pump, if any, or from anywhere else, can escape it unless the boat is upside down, in which case it wouldn't matter much. It will most certainly form a wall between the carburetor and the starter or any other electrical gear that might produce any kind of a spark. Such a drip pan as this (I was going to have one made) would have prevented the *Hiandry* fire all by itself, or at least would have kept it in one place where the extinguishers could have smothered it.

This sounds pretty safe so far, but you never can tell. Here are more ideas. I have always liked motors in the cabin. They keep dry there, they are easier to work on, and I personally do not mind the smell, being congenitally immune to seasickness. But, in future, if I have a motor in a cabin it will be in a part of the cabin that can be entirely closed off from the rest of the boat. And there will be a hatch forward out of which a big man can climb without delay.

Locating a motor in a boat of thirty or thirty-five feet length is a problem. If the cockpit or bridge is covered with a standing top and windshield, so that it is reasonably dry at all times, I have no objection to the motor being under it, provided, however, that it is covered with large hatches so that a man can get in beside the motor and work with reasonable comfort and efficiency. There will also be a small and readily-opened hole in the deck somewhere, through which extinguishers can be worked.

If the motor is in the cabin, there will be a tight bulkhead abaft it and a bulkhead forward of it, with a door that can be shut tight from either side. If under the cockpit or bridge, it will have a watertight bulkhead abaft it, in any case. There will probably be a door, or doors, between cabin and motor compartment, but these will be of such nature that they close quickly and tightly. *Hiandry* had two light doors and a removable section of bulkhead there, and you had to open it all up wide to get at the motor, there being no hatches over it.

Such a door would have a sill reasonably high from the bottom of the boat, and from the sill down it would be tight, with perhaps a small plug or gate cock over the keel which could be opened to let bilge water run forward, but which would be kept closed at all other times. And bilge water would never be allowed to run forward if it smelled of gasoline.

In other words, no matter where my motor is in the boat, I want that part able to be closed off from the rest of the boat, so that the fire, if any, can be confined to the engine room and smothered there.

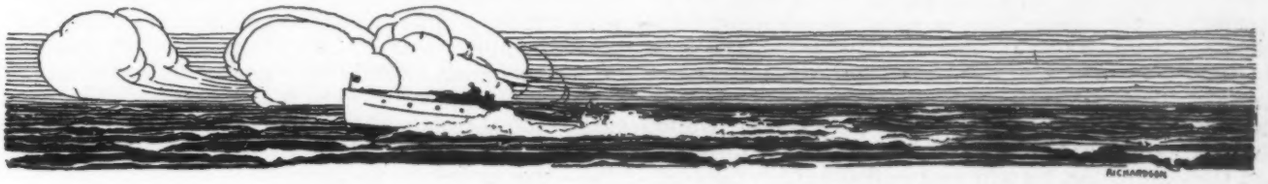
Fire-fighting devices are a subject of which I have only a limited knowledge. I hold no grudge against extinguishers of the hand variety. They proved ineffective in the case of *Hiandry* because there was too much gasoline in the bilge when the fire started; because the fire was not localized, but wandered around under floors and sheathing and behind bulkheads, and in other obscure corners where you couldn't hit it; and because the fine draft from forward blew a lot of the extinguishing gas out before it could do its work. My next boat is going to be decorated extensively with all kinds of fire apparatus, and a couple of Pyrene guns will be included. They will be kept in good working order, which one of the two I had in *Hiandry* was not.

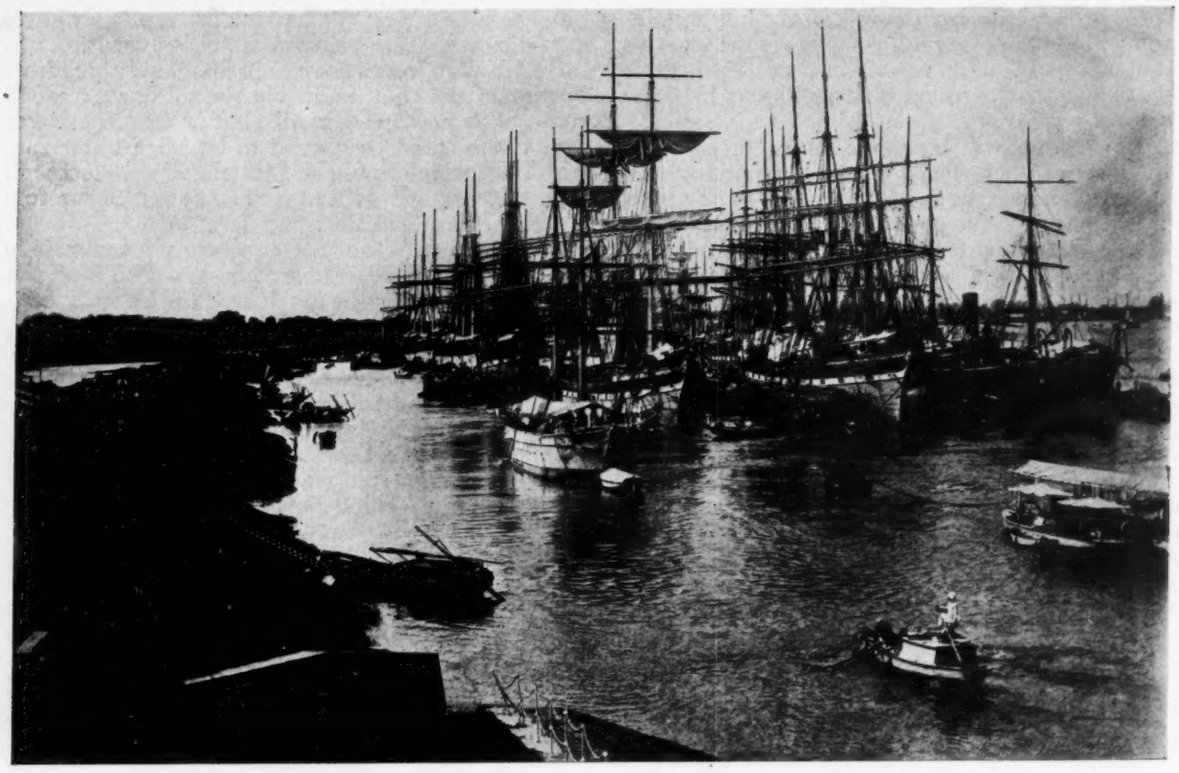
There will be one of these systems in which you pull a handle and flood the whole boat with carbon dioxide. Such a system would probably have saved the day in *Hiandry* if it had been of sufficient capacity, because with it we could have closed up all the openings aft, whereas, under the circumstances, we had to keep them open to use our extinguishers.

I almost forgot to ventilate the engine room. A couple of sizeable ventilators facing forward will admit fresh air to the bottom of the engine room bilge, and a couple more, aft, will suck it out again. But these will be so placed that you can close them, or stuff them with a shirt or something, if you want to smother a fire.

Insurance people claim that more fires start from stoves than from motors in boats. I shouldn't be surprised. I have had only one motor fire, but I've had three or four little blazes from stoves, all of which were smothered as easily as stamping out a cigarette butt, comparatively. I'm partial to coal stoves, which, if installed with plenty of air space around them, will do no damage, provided you keep the fire inside the stove. But liquid-fuel stoves are handy in hot weather. These should be used in deep, metal-lined compartments which will hold any spilled fuel, even in a seaway. The immediate fuel supply should be small, and the reserve supply kept in one of those fire-proof tank compartments, or in some locker near which there is no heat, or out on deck. Better yet, stick to solid fuel.

Speaking of insurance, I wish I had had plenty on *Hiandry*. Of course, she had to go when there was none on her. But I've never yet insured a boat, except one that was not all paid for. So I lose the cost of *Hiandry*. That is exclusive of the money I had in my other pants, hung up on the bulkhead, for which I didn't stop when I left. Insurance wouldn't have covered those pants, anyhow.





Calcutta Harbor in the early nineties, with the shipping moored, bow and stern, to buoys

In Retrospect

Some Further Memories of the Bark "Hawaiian Isles," and On Life at Sea as It Was in the Past

By CHARLES R. PATTERSON

IN MY article on the ship *Hawaiian Isles*, in the May issue of YACHTING, some of the incidents of the voyage I made in her had to be omitted owing to lack of space. I feel, therefore, that these could be set down here in another article, with perhaps a little added on, concerning life at sea a generation ago.

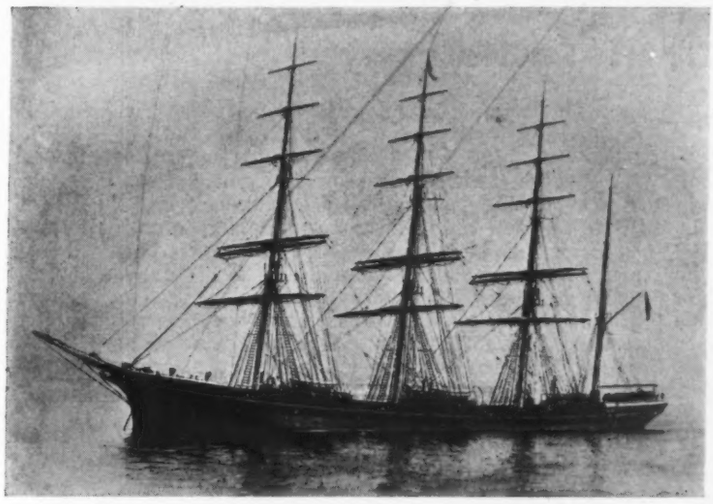
To begin with, I related how Captain Kustel, after the tug had taken hold of the ship and sail had been furled, called all hands aft and asked them to stay by the ship until the sails had been unbent and stowed away. He told us that before the ship came to an anchor the boarding-house runners would be urging us to leave, offering all kinds of rosy inducements. His predictions were true enough, and long before the anchor was down a number of Whitehall boats were in evidence, manned by some pretty hard-looking individuals. In spite of their hard looks, however, they showed an almost affectionate regard for us, calling some of us by our first names, and seemingly under the impression that most of us were named "Jack."

No one was allowed on board, however, and the boats kept their distance with the exception of one, whose occupants, after sizing up the situation, evidently decided to take a chance. A pilot ladder was hanging over the starboard side just abaft the main rigging, and as the boat swung alongside, a tough-looking customer stepped from the stern sheets and started up the ladder. Captain and Mrs. Kustel had been pacing the deck aft, and the skipper left his wife and walked briskly forward, arriving just as the man's head and derby hat showed above the bulwarks. Captain Kustel said quietly, "You cannot come on board of this ship." But our friend with the iron hat only gave him a scornful look and kept right on over the rail. Just as his foot came over, however, Captain Kustel pulled a revolver from his right hand coat pocket and said, with more emphasis this time, "Now, you, get down in that boat." Scrambling down into the boat, which backed off a short way, the crimp told Captain Kustel his opinion of him and just what he could do with his ship. Mrs. Kustel beat a hasty retreat, but the "Old Man" continued pacing the deck without paying any further attention.

I recall another incident that seems funnier now than it did at the time. We were washing down decks in the morning watch, and coming near the end of the forward house the boatswain noticed that the Japanese cook had some pots and pans standing on the deck, and told me to tell the cook to put them in the galley. This I proceeded to do, but it was evidently one of the cook's bad days, and he refused to pick them up. I therefore took it upon myself to deposit the aforesaid pots and pans upon the galley floor, despite the cook's protests. One word led to another, and I started into the galley after the cook, who seized what looked to me like the biggest meat knife I had ever seen, and waved it about menacingly, shouting at the same time, "You puttee foot inside, I cut him off head." I didn't go in, and the boatswain's arrival on the scene closed the incident.

In my previous article I made some remarks on discipline, and the tendency of some sea writers to play up brutality on the part of captains and "bucko" mates, to call some vessels "hell ships," etc. My contention is that this sort of thing has been greatly exaggerated. Many so-called sea writers, having little or no first-hand experience of life at sea in sailing ships, depend upon the lurid and sensational to give their stories popular appeal. The real life at sea, as sailing ship men knew it and understood it, is touched upon very rarely, and could never hope to furnish material for a "best seller." The behavior of a ship at sea, the day's runs, the weather, etc., would bore the landsman to extinction, but would be read eagerly by the men who had been through it all and knew what it meant. Danger and hardship were all in the day's work, and were discounted accordingly. In short, the sailor's viewpoint is entirely different from that of the shore dweller.

To return to the subject of discipline. I think it can be safely stated that the discipline was infinitely more severe on American ships than on British. The British ships in many cases were too slack in discipline, while



The "Kentmere," of London, on which the author served for nearly four years

American ships went to the other extreme. I served on three American ships and was able to contrast them with the two British vessels on which I spent about five years. On the British ships it was an almost unheard of event to lose the afternoon watch below, and if one did not have to go to the wheel or on the lookout in his watch on deck at night, it was quite possible to steal some sleep somewhere on deck. An afternoon watch below was rare indeed on American ships, and on the few occasions that I tried to get "forty winks" in my watch on deck at night, there was so much unpleasantness about it that I ceased to try.

The Americans went at the business of seafaring as though it was a matter of life and death, and one was expected to throw one's self into any job for all he was worth. If an order was given at night to brace the yards, or make or shorten sail, this necessary work was often performed on a British ship with a good deal of grumbling and bad language. This would have been unthinkable on an American vessel. It seems to be true, though, that the better some people are treated, and sailors especially, the more they despise those in authority over them. Nova Scotian ships must be included with American when speaking of severe discipline; in fact, "Bluenose" ships, as they were called, had a very hard name. Sailors on a British vessel could get redress in a court of law for brutal treatment on the high seas, whereas on American and "Bluenose" ships discipline was often enforced in defiance of law.

Nova Scotia officers served on a number of the big American wooden ships, and commanded some of them, also. I remember old Captain W. H. Grant saying some twenty-five years ago that when he was master of American deep-water ships he didn't ask the mate, when hiring him, whether he was a good navigator, but whether he could fight. It has always been my opinion, however, and I have read several articles by seamen to the same effect (one as far back as 1842), that a good sailorman was seldom, if ever, molested by those over him. Good men were too hard to find, at any time, to be treated brutally. On the other hand, crews had to be found somehow, and, in American ports, that was where the sailor's boarding-house man came in. For a number of years it was impossible for a captain to ship a crew in any of the large American seaports without getting the men through a boarding-house master, and paying a certain amount per man for every man shipped. The money paid was known as "blood money."

Now, boarding-house keepers or their agents, known as "runners," were not at all fussy about what kind of men they picked up, and very often it was a case of "all being fish that came to their net." There were many cases of shanghaing men, of course, and sometimes a midnight reveller woke up to find himself outward-bound on a long deep-water voyage. On the last

(*Continued on page 94*)

"Hawaiian Isles" running her Easting down in a hard westerly

Rounding the windward mark in the recent team match between the Pearl Harbor Yacht Club, Hawaii, and the San Diego Yacht Club. The races were sailed in Herreshoff Class S yachts and the new Pacific Coast One-Designs. The latter won by a point score of 109 to 103

The Month in Yachting

New Records Set at Worcester Outboard Regatta

WORCESTER'S reputation for beginning the Eastern outboard racing season with a wave of record-shattering performances was sustained in the three-day regatta held on Lake Quinsigamond over the Memorial Day week-end by the Worcester County Motor Boat Club.

Five new mile time trial standards were written onto the books, two competitive marks eclipsed, and several others threatened by outboard drivers. Class A runabout and 125-cubic-inch piston displacement hydroplane skippers established time trial and race records which will stand under the revised 1931 rules until someone turns in faster figures in these classes.

The new outboard records:

ONE-MILE, TIME TRIALS

Class	*Speed*	*Driver and City*	*Old Record*
A-2	36.663	Bertram Steacie, Worcester	35.694
B-1	43.984	Harry Roberts, Hartford	43.452
C-2	47.275	F. G. Brobeil, Buffalo	46.858
E-1	47.936	M. W. Whittall, Worcester	44.489
E-2	49.417	F. G. Brobeil, Buffalo	47.938

FIVE MILES, COMPETITION

A-2	34.456	Bertram Steacie, Worcester	32.315
C-2	43.478	F. G. Brobeil, Buffalo, N. Y.	43.373

The new inboard records:

ONE-MILE, TIME TRIALS

Class	*Speed*	*Driver and City*	*Boat*
Runabouts, 1	32.224	Mrs. M. Hickey, Worcester	*Miss Aldine*
Runabouts, 2	31.852	Frank Wigglesworth, Boston	*Miss Aldine*
125-Cubic-Inch	33.411	J. E. Wilkinson, Squantum	*Uncle Frank*

FIVE MILES, COMPETITION

Runabouts, 2	30.405	Frank Wigglesworth, Boston	*Miss Aldine*

FIFTEEN MILES, COMPETITION

125-Cubic-Inch	31.847	J. E. Wilkinson, Squantum	*Uncle Frank*

The new Johnson "50" was used in making both amateur and professional time trial records in Class E. Brobeil used an Evinrude in establishing his Class C one-mile mark but shifted to a Johnson the following day when he made his five-mile mark in competition in the same class. Brobeil, a youngster of 19, drove boats built by his father.

Walter Widegren, the 18-year-old Glen Cove, L. I., high school student, ran rings around a high-class field in the two ten-mile heats of a free-for-all held on Memorial Day and won in his little *Flower's Falcon* in 46.729 and 45.29 m.p.h. He slowed down in the second heat when his closest rival, Brobeil, capsized on the second lap.

The following day 17 drivers, including such aces as Marshall Eldredge, J. Everett Wilkinson, Irving Dillon and C. Phelps Stevens, started in the 100-mile marathon. Only six finished inside the time limit, the rest succumbing to engine trouble, damaged hulls or physical inability to survive twenty laps of pounding over a choppy five-mile course.

Ben Rhymer, of Kingston, N. Y., who has been racing only a little more than a year, won the marathon. Second place went to Charles Cabot, of New Haven. The winner's speed, 42.55 m.p.h., was excellent considering turns and the rough conditions that prevailed. Young Bob Flagg, of Worcester Academy, was a good third.

The 12-metre "Cantitoe," owned by B. S. Litchfield, which joined the class recently and has been racing on the Sound. She is from designs by J. Anker

Frank Wigglesworth's 1930 runabout champion, *Miss Aldine*, swept her events with Wigglesworth and Mrs. Mildred M. Hickey alternating as pilots, and J. Everett Wilkinson spread-eagled the new 125-cubic-inch hydroplanes with *Uncle Frank*, a boat of his own design.

+ + +

"Miss Aldine" (right) swept the events for the runabout class at the Worcester regatta. (Below) Bertram Steacie, in "Misstep II," set a world's record in Class A, Div. II outboards

Lake Yacht Racing Association Meet

FOR the first time in the history of Lake Ontario yachting Star Class sloops will this year be a feature at the annual regatta of the Lake Yacht Racing Association, to be held at Henderson Harbor, N. Y., July 28th to 30th. Consequently, the class came in for a considerable amount of discussion at the spring meeting of the L.Y.R.A. council held at Watertown, N. Y., May 16th.

In the Twelfth District of the International Star Class Yacht Racing Association there are now thirty-three Stars. Eight of these are in the Finger Lakes Fleet, seven are on Otsego Lake, four on Lake Champlain, four on Oneida Lake, four at Oswego, and five in the Quebec Yacht Club, the latter organization having been recently admitted to membership in the L.Y.R.A.

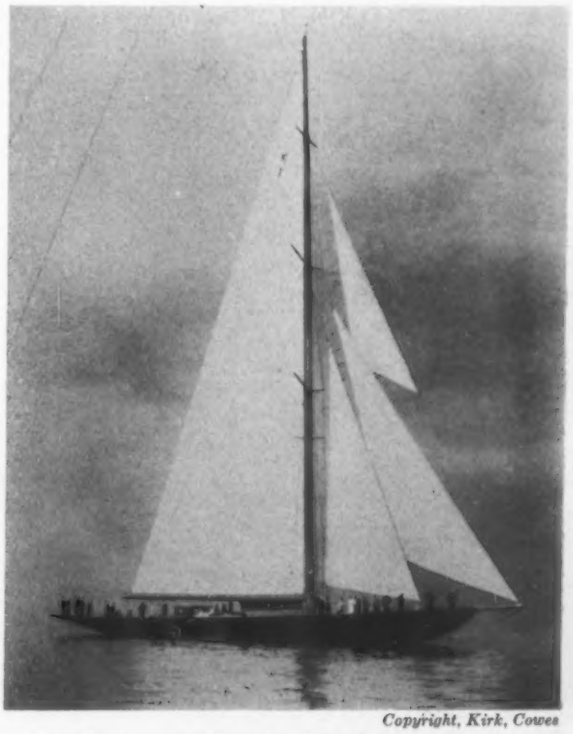
Because of the fact that the Quebec Yacht Club will be unable to send any of its boats this year, the class would be without entrants aside from those in the Oswego club unless courtesy was extended outside of the association clubs. It was accordingly voted to make it an invitation race this year, with flags the only awards, and it is estimated that approximately fifteen Stars will be entered.

For several months a committee consisting of Major W. F. N. Windeyer, of the Royal Canadian Yacht Club, Toronto; T. A. E. World, commodore of the Queen City Yacht Club, Toronto; and Walter L. Farley of the Rochester Yacht Club, has been considering the matter of a permanent rendezvous for the annual L.Y.R.A. regatta. A partial report was made showing that Prinyer's Cove, on the Canadian side, and Big Sodus Bay, on the American side, have been considered, but more time for further investigation was desired and a complete report will not be made until the annual meeting at Toronto, about the middle of October. Some sentiment has been shown for two rendezvous located at points on the lake convenient to the several clubs. The present plan calls for alternating the rendezvous every year.

The races at this year's regatta are to be sailed on Eastern Standard time, the first class being sent away at 10:30 each day and the other classes following in order on five-minute intervals. The first class will be for cutters, sloops, schooners, yawls and ketches rating over 31 feet; second, Class P sloops; third, eight-metres; fourth, schooners rating between 20 and 31 feet; fifth, Section A of the Class R sloops eligible for the Sir Thomas Lipton Cup; sixth, Section B of the R Class; seventh, yawls and ketches between 20 and 31 feet rating; eighth, veteran sloops of 25 feet rating and under; ninth, small schooners and yawls rating 20 feet and under; tenth, Star Class sloops; eleventh, C Class sloops.

The long distance race for the Freeman Cup will also be sailed on July 25th, starting from Cobourg, Ont., and covering 86 nautical miles to Henderson Harbor. The race is an international long distance handicap and the starters will take the gun by classes at 5-minute intervals, the first of which will leave at six in the evening.

D. F. LANE



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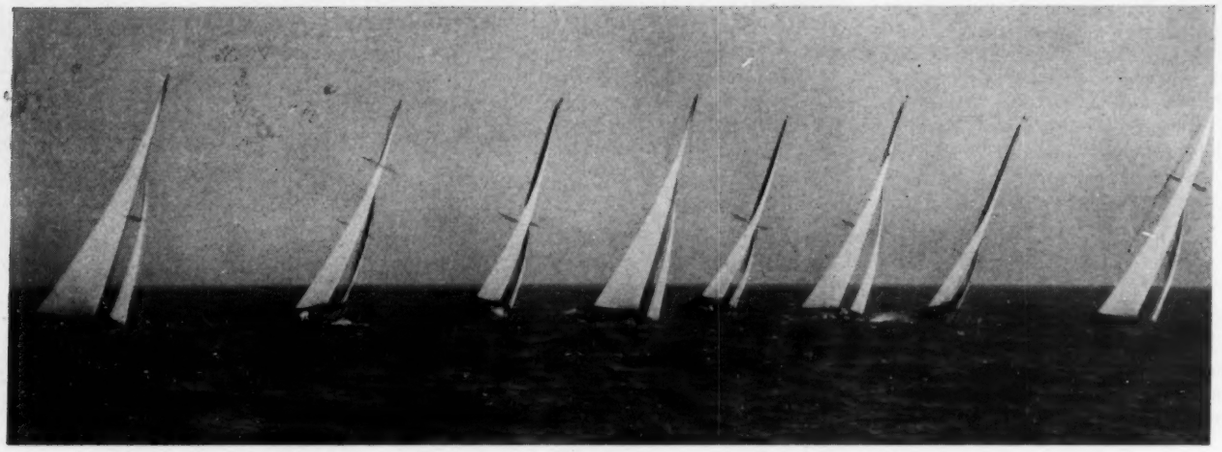
The King's cutter "Britannia" on her first sail on the Solent under the new Bermudian rig



The Class R fleet of the Chicago Yacht Club, off to a fine start. The 20-raters are still the pride of the Lake sailors

Another Mackinac Race

THE outstanding fresh water racing event takes place again this year with the renewal of the annual race from Chicago to Mackinac Island, sponsored by the Chicago Yacht Club. The 331-mile trek begins at the lower end of Lake Michigan on July 18th this year.

The Mackinac fleet is composed of two divisions, the racing and the cruising, each racing independently of the other. The winners will be determined by the usual handicap method which rewards the crews of the first three boats in each division with the much coveted Mackinac medals.

Interest in this forthcoming race has never been greater. The boats have already had an opportunity to get into racing trim by taking part in the Columbia Yacht Club's Chicago to Michigan City Race on June 20th. They will have another "prep" in the nautical Kentucky Derby when sails are unfurled for the 83-mile run to Milwaukee on July 3rd when the beautiful George Owen Clinch trophy will be at stake. From the foregoing it appears that Lake Michigan sailors are active in distance events. These races draw a large number of contestants, particularly the Chicago to Michigan City race, which usually attracts over sixty starters.

The fine fleet of "R" boats at the Chicago Yacht Club is still the pride of the Lake sailors. *Atalanta*, sailed by Malcolm Vail, and *Ariel*, sailed by E. E. Sheridan, have each a victory to their credit in the early season competition. *Atalanta* is the present holder of the Richardson Trophy, emblematic of the championship of the Great Lakes, while *Ariel* was the winner of the Lipton Trophy in 1930. The fleet of "R's" is composed of *Gossoon*, *Atalanta* (former *Gypsy*), *Ariel*, *Varya*, *Nancy*, *Calypso*, *Colleen*, *Mitzi*, and *Alert IV*.

Freedom, Mr. Sterling Morton's new 89-foot auxiliary schooner of Alden design, will race this year in the East, flying the burgee of the Chicago Yacht Club in the New York Yacht Club Cruise.

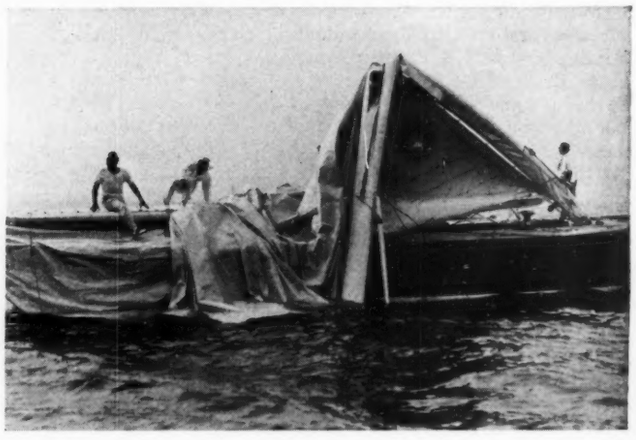
DOUGLAS K. PORTEOUS

Photos by M. Rosenfeld

"Valiant," Commodore Winthrop W. Aldrich, with her new trussed mast and "V" boom on her first race of the year. (Right) "Valiant" just after her new mast "let go"

Credit for the "Main Trysail" Rig

IN THE issue of August, 1926, we published an article by Frederic A. Fenger on a rig that he had evolved for a ketch or a staysail schooner and which he called a main trysail rig. Since this was published this rig has been adopted and used by various naval architects, both here and abroad, the latest use being on Miss Marian Carstairs' *Sonia II*, the plans of which appeared in the June issue of YACHTING. Altogether the rig has been used on three three-masted schooners and one two-sticker abroad, and on one three-master, one schooner, and one ketch here in America. In no instance was any credit given to Mr. Fenger for having evolved and first published the sail plan of this rig. We think it only fair to Mr. Fenger, who has been a contributor to YACHTING for many years, that this fact should be made known. If any of our readers will turn to the August, 1926, issue of YACHTING, they will find a most complete exposition of the rig in the article accompanying the sail plan.



About Those Motor Boats

By GEORGE W. SUTTON, JR.

UPPOSE we start this with an open note to William H. Taylor, who immortalizes the gentle art of sail boating for *The New York Herald Tribune* and *The Sportsman* and occasionally casts a scribal eye over the doings in the maelstrom of motor boating. Look out!

Dear Bill:

You and I had a printed battle recently over the cohesiveness that holds the motor boat sport together and the lack of it that holds the sail boat sport apart. When the smoke had settled we found we had been in almost perfect agreement all the time — but we never did split that beaker of schnapps to make our armistice official.

We learned that our apparent difference of opinion had generated from the fact that you look upon motor boating and I upon sailing races with casual and jaundiced optics. On the other hand, your attitude toward sailing and mine toward the scurrying "putt-putts" are, naturally, somewhat biased and unfair. We see, publicly, only the good in our respective sports. How could it be otherwise?

Once in a while, however, something unfavorable comes up that should demand a passing comment but we can't give it properly if it reflects on "our team." How would it be to exchange such opinions so that justice may be done? If you discover anything about the noble sport of sailing that has a strange and ignominious aroma, just shoot it along to me and I'll turn a poison-dipped pen on it.

Here is something you could set your teeth into but about which I cannot speak in a care-free manner.

Motor boat racing this year has received three distinct wallops. Nothing much is being done about it. The motor boat fellows are turning the other cheek, as it were, and taking it on the chin.

First, for good and sufficient reasons, Newport threw out the annual motor boat regatta in favor of a flock of little sailing regattas and the galloping outboards and pepped-up runabouts will no longer be heard in competition on Narragansett Bay, a glorious natural home for them. Secondly, New Bedford, charging "too much professionalism," threw out its big annual motor boat regatta and substituted a series of events for wind-blown yachts. Lastly, motor boats have been barred from Lake Ronkonkoma, L. I., where last year they staged a fine series of outboard regattas every Sunday. The Long Island affair seems not to be caused by wickedness on the part of motor boaters but rather by a battle between real estate agents.

As to the motor boating "professionalism" scorned by the sailing whales of New Bedford, what can be expected in a sport in which much of the progress has come from the participation of manufacturers and dealers and which is sponsored by organizations which offer cash prizes? As a matter of fact, this phase of motor boating is well under control this year for the first time.

I thought you ought to know these things so that you may do the needful, in your best literary manner, which is very literary indeed and highly diverting. You have frequently made subtle remarks about little defects in motor boating. This seems to me to be a big one. Go to it.

Be sure to reciprocate in the sailing field and I'll do my feeble best to treat it properly. And don't forget that beaker of schnapps.

GEORGE

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Looks as if this is going to be the fastest season ever experienced in the motor boat world. First Gar Wood reaches that long-sought goal of the racing pilots — 100 miles an hour. Then Kaye Don comes along and breaks that record. Then seven new world's records for outboards were made on Salton Sea, Calif., but were not allowed, and no further records from Salton Sea will be recognized because it is so salty and so far below sea level as to produce unfair conditions.

A little later Wade Woodworth created a new record for the Albany-to-New York race, and in the Worcester regatta on Lake Quinsigamond five outboard mile trials and two competitive outboard records went tumbling.

It seems certain that still more records will go before the end of the season, including the present mark of 103.4 by Kaye Don, which tops them all.

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In fact, Gar Wood is now preparing some mechanical poison for competitors. According to a report just received, he is putting super-chargers on the engines in *Miss America IX* which he expects will raise her horsepower from 2120 to 3700, and her speed to more than 110 miles an hour. Present indications are that Wood will not use the super-chargers in defending the Harmsworth Trophy, but only in the mile trials.

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With the Albany-to-New York, the Milwaukee-to-Chicago and the Worcester 100-mile races all taking place in the month of flowers a nice article can be written next spring entitled, "The Merry Marathons of May." Please remind me of it about March 1st.

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By the time that this issue of YACHTING is in print the second annual intercollegiate outboard regatta will have been held on Lake Skaneateles, near Syracuse. This is one of the most sportsmanlike events in the whole motor boat world and last year attracted unusual attention for the splendid spirit displayed by the contestants. It was rumored that one of them, during a temporary absence from overhauling his motor, left a wrench lying on the float and actually found it there upon his return. Whether or not this is a gross exaggeration, the friendly attitude displayed by the college boys stirred up the greatest admiration on the part of all the veteran motor boat editors, writers and officials who watched the events.

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Almost every racing season sees a few feminine drivers rise to the summits of fame in the motor boat world. The exploits of Helen Hentschel, Delphine Dodge and Mrs. W. J. Conners stand out brilliantly in the motor boat achievements of three or four seasons ago. This year it is Loretta Turnbull and Mildred Hickey, with others, probably Hilda Mueller and Alice Hallowell to be heard from later. Miss Turnbull has been the first to carry the American flag to victory abroad this season and Mrs. Hickey, in addition to winning the runabout section of the Albany-to-New York race in record time, did great things at the Worcester regatta.

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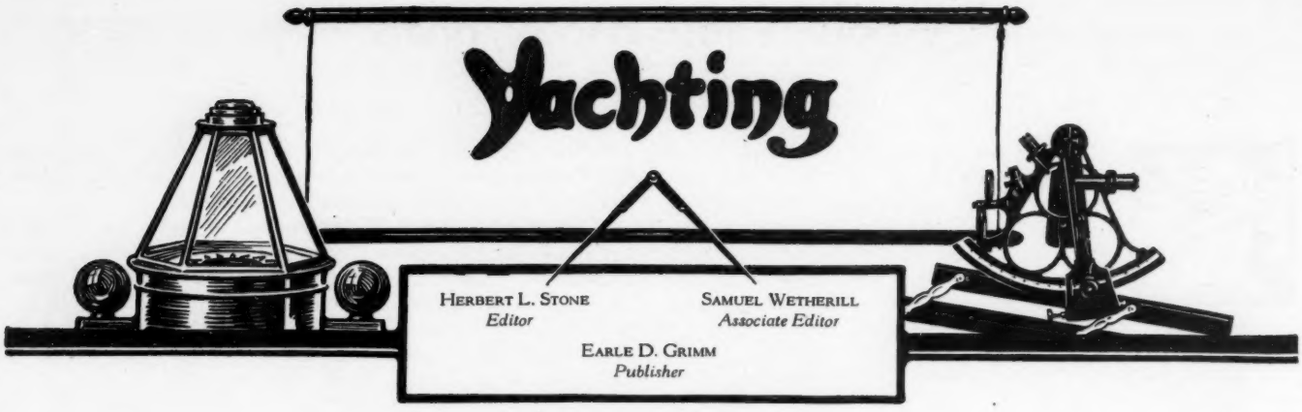
Last year the champion small runabout of the season was Frank Wigglesworth's 16-foot *Miss Aldine*. This year it is likely to be the same boat. In the Albany-to-New York race and on Lake Quinsigamond she has already won enough glory to last her the entire season, but a lot more is probably coming to her.



EDITORIAL

As the Columnist Writes Yachting

IN A recent number of *The New Yorker*, N. B., Jr., the fact-free and fanciful yachting columnist, remarked, ". . . yachtsmen are going to have plenty to do this summer. For one thing, there is the Transatlantic race from Newport to Plymouth, the first race for small boats across the North Atlantic in twenty-six years, and probably the hardest test of seamanship ever devised under yacht club supervision." From which I conclude that yachting columnists for the bright magazines are going to have plenty to learn this summer if their memory does not extend back to the Transatlantic race to Spain in 1928. I can start N. B., Jr's., education by informing him that the Spanish race was the first, and up to this moment the only, Transatlantic race for small boats ever sailed under yacht club supervision. It was also something of a test of seamanship; but it was the *autanblanc* blowing for six days out of the Bay of Biscay rather than the supervision that made it rugged.

The same ingenuous gentleman remarks, "We want to find out what fitters can do to a moderate-sized sailing ketch (*sic*) that will give a man enough confidence to start out in her for a three weeks' trip across the Atlantic." The fitters (if you include in this term designer, builder, sailmaker, and rigger) play their part, to be sure, but it is confidence in his own and his shipmates' ability that induces a man to race across the ocean. And whereas there are seventy-odd men lucky enough to demonstrate their confidence in the Newport-Plymouth event, I venture to say there are a thousand yachtsmen eager and fully equipped to race to Plymouth if the opportunity were present. Ignorance of the skill of yachtsmen is becoming less and less modish.

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Good Luck and a Fair Wind

AND speaking of the Transatlantic Race, which at this writing looks as if it will claim some ten or a dozen starters, including a German ketch now on her way from Hamburg which may or may not arrive in time for the starting gun, the best we can wish the hardy crews is Good Luck and a Fair Wind. They may need the former to win; they will have to have the latter to make a quick passage. But no matter what the winds, we can count on skippers and crews driving to the limit of spars and hull.

It will be a long drive, and at times a hard one, but most of the crews will have youth on their side in facing the discomfort inevitable in bad weather or head winds. And in this race we believe that we shall have abundant proof that the spirit that animated the "sailor of the sail" of other days is not dead.

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No Argument in the Twelve-Metre Class

SOME of the members of the 12-metre racing class have taken exception to a reference on this page in the last issue to the matter of the eligibility of the Norwegian built *Cantitoe*, recently brought to the United States. We are told that our remark about a "squabble" over the rating of this boat is entirely without foundation. We are glad that this is so, and hasten to make amends.

The only question at issue was one of mast height. The American "Twelves" had the mast height reduced slightly to avoid taking a penalty when these boats were measured under the Universal Rule. The *Cantitoe* had the mast height allowed under the International Rule. Inasmuch as all of the boats comply with the restrictions of the 12-metre class, there is no argument when the boats race in that class. Which is gratifying, for the class is a fine one, and should grow in numbers in American waters.

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The New Rigs in the "M" Class

WHILE it is true that racing yachts may be considered as a "laboratory" for experimentation, it would seem to the average yachtsman that boats as large as those in Class M are a bit big on which to try out radical changes. After the success of *Enterprise* last year the owners of three of the Class M yachts, the next largest racing class to the Cup boats, decided to try trussed duralumin masts, built on a new principle, V-shaped booms, and other gadgets suggested by the successful America's Cup defender. These changes were made at great expense, but in the first race in which these boats met, the *Valiant* lost her mast in the lightest of Long Island Sound breezes. Following this, the other two shipped their spars back to the maker for additional strengthening, while a new mast had to be made for *Valiant*. This does not necessarily mean that the masts are to be condemned, but it does serve to emphasize our point that a Class M yacht is too big to be used for experiments as costly as this one. A smaller boat would have answered as well, and at much less cost. Where the cost of such experimentation is so heavy, it places an undue handicap, or burden, on those in the class who do not feel that they can afford these expensive changes, yet face being outclassed if they do not make them.

IN THE WORLD OF YACHTING

ALBERT CHRISTIE

AS AN enthusiastic racing and cruising sailor, few men on the West Coast are better known to yachtsmen than Albert Christie, better known to his friends and the public as Al Christie. In fact, one has to go to "Who's Who" to find what the "Al" part of it stands for.

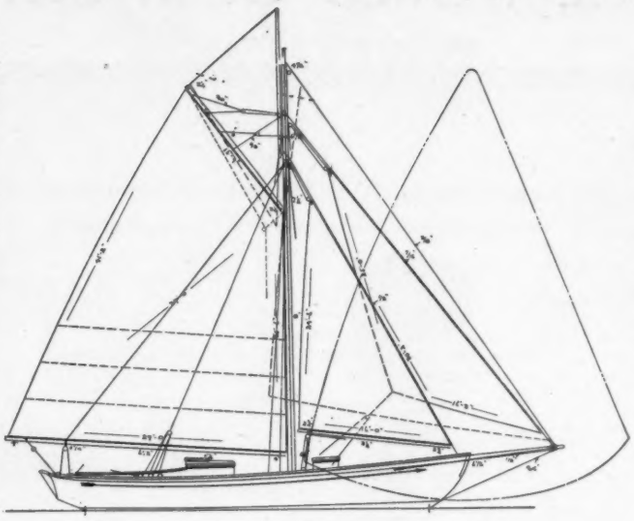
Like a number of others of the Hollywood community, Christie finds recreation in yachts. For many years he sailed and raced the old class R sloop "Canuck" in the 20-rater division, off Los Angeles. In 1927 he had the 20-rater "Heather" built, and raced her for three years in that scrappy class, which at the time attracted the best skippers on the Coast. In 1929 he sailed her to second place in the midwinter series off San Pedro. Wanting something larger, he had the 61-foot staysail schooner "Highlander" built, in 1928, and while he uses her mostly for cruising, she won the Cruising Class championship the following year in the Southern California Yachting Association Regatta.

In the spring of 1930 he bought the 6-metre "Lanai" and took her to the Coast, where she has done well in that class, and at the midwinter regatta this year she won the championship in her class with 38¼ points to her credit, against a fleet of fast "Sixes," with Ted Conant at her helm.

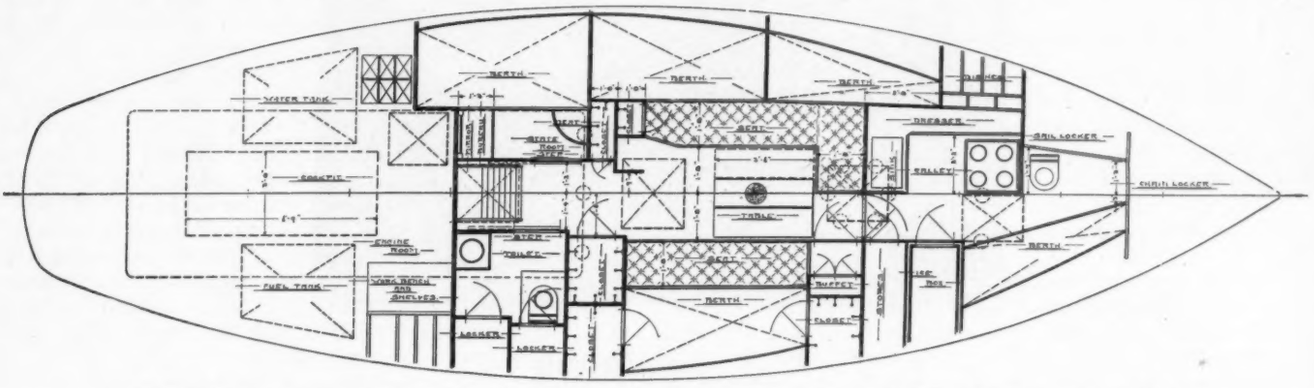
In between his yachting activities Al Christie has found time to produce screen comedies and the like, but he does not let this interfere in any way with his sailing. His yacht club affiliations are with the California, the Los Angeles and the Catalina Island Yacht Clubs.

"Audacious"—A Husky Cutter for Ocean Cruising

ALONG in the month of May Mr. Larry Kent, of Hollywood, planned to start for a cruise to the South Sea Islands and continue on to France. The trip will be undertaken in the husky cutter whose plans are shown herewith. She was designed by Edson B. Schock, of Los Angeles, and is nearing completion at the yard of the Wilmington Boat Works. Her dimensions are: l.o.a. 45′; l.w.l. 36′; beam, 13′ 3″; draft, 7′ 3″; sail area, 1100 sq. ft. A Gray 4-44 will be installed for auxiliary use.



The interior layout was especially designed for the purpose in view, and shows a single stateroom aft, large main cabin with three built-in berths, big galley forward, and toilet room aft, to starboard of the companion steps. With her ample freeboard, flush deck, cutter rig and fine storage space, *Audacious* should prove to be an excellent craft in which to make long passages in good time and with all the comfort to be expected in a craft of her over all length.

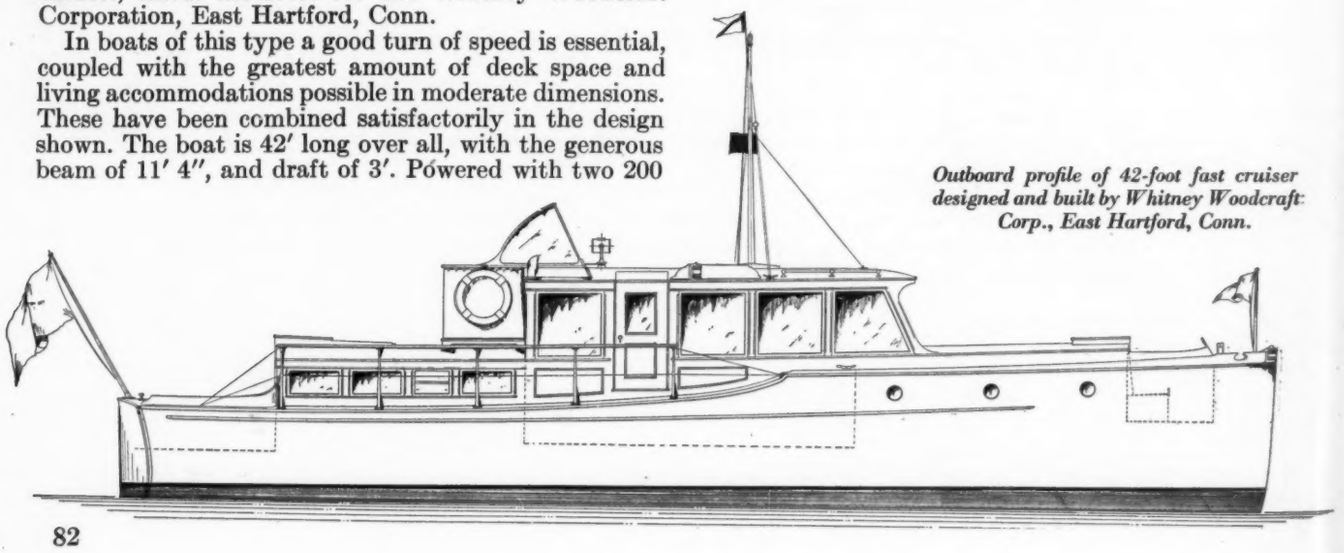


Sail and interior accommodation plan of "Audacious," the Schock-designed cutter building for deep water cruising

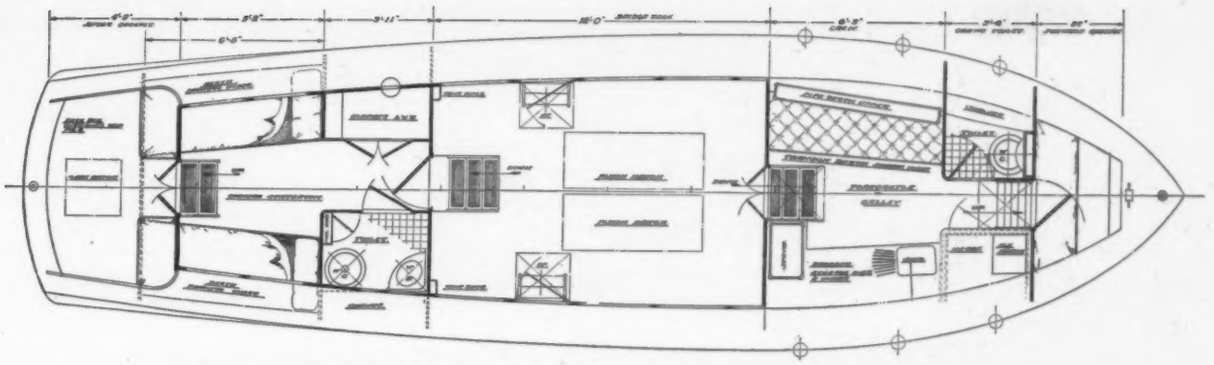
A 42-Foot Fast Day Cruiser

AN EXCELLENT example of the fast day cruiser type of power boat which is becoming increasingly popular with yachtsmen who want the maximum use of a boat in the time at their disposal is shown in the accompanying plans. They are from the board of W. H. Millett, naval architect for the Whitney Woodcraft Corporation, East Hartford, Conn.

In boats of this type a good turn of speed is essential, coupled with the greatest amount of deck space and living accommodations possible in moderate dimensions. These have been combined satisfactorily in the design shown. The boat is 42′ long over all, with the generous beam of 11′ 4″, and draft of 3′. Powered with two 200 h.p. gasoline motors, she will show a speed of 25 m.p.h. With somewhat less power, speeds up to 20 m.p.h. can be had economically. One-man operation is provided from a bridge abaft the deckhouse, to which point all engine and steering controls are led.



Outboard profile of 42-foot fast cruiser designed and built by Whitney Woodcraft Corp., East Hartford, Conn.



Accommodation plan of 42-foot cruiser. A roomy layout has been obtained in a limited length

The accommodations are unusually well thought out. The deckhouse is very roomy, there being 12 feet of clear deck space, fore and aft, making it a fine living and lounging room. Beneath the floor of this compartment is the engine room, reached by hatches in the floor. Aft, there is a large double stateroom for the owner, containing two full-length berths, large clothes lockers and toilet room. The forward cabin contains two berths, and the pantry and galley, and also another toilet room. From this cabin steps lead up to a forward cockpit, while there is another good sized cockpit in the after end of the boat.

The profile is pleasing, the boat being snappy in appearance, and the accommodations are unusual.

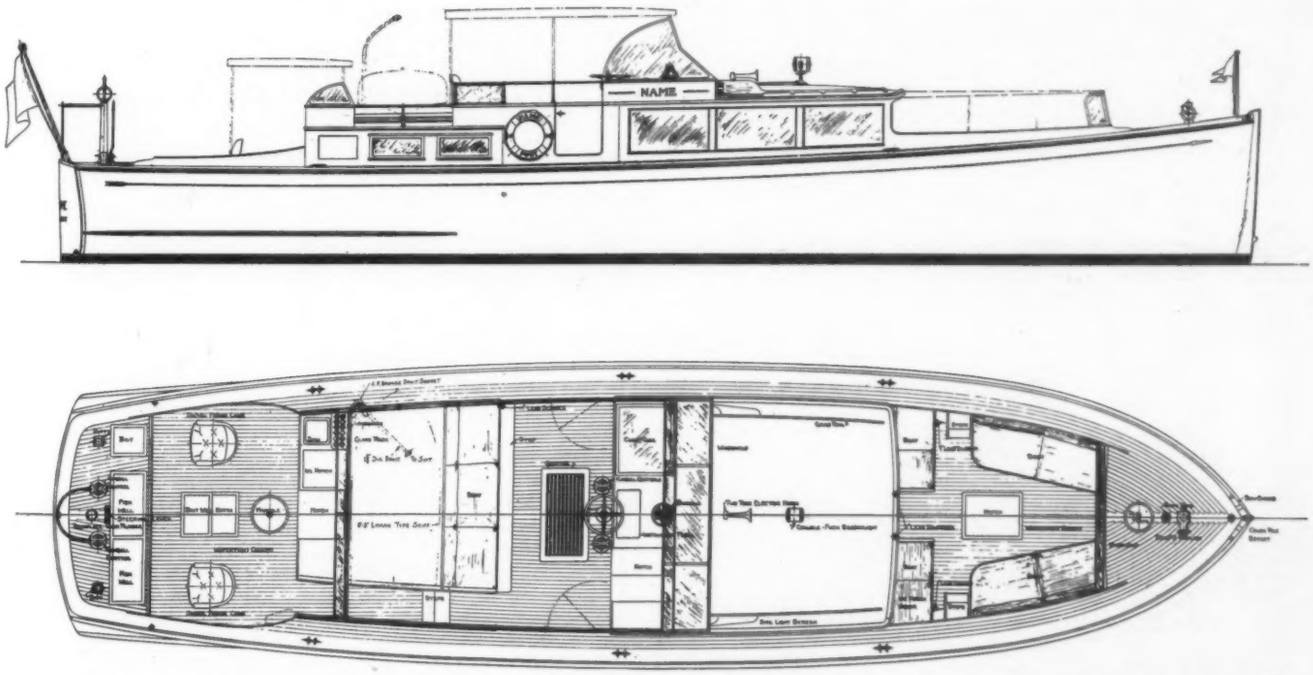
"Marlin," a 51-Footer for Edsel Ford

A RATHER novel type of commuting boat, which is also especially adapted for fishing purposes, has been turned out recently by Eldredge-McInnis, Inc., Boston, for Edsel B. Ford, of Detroit, Mich. This boat was built last winter by Fred Lawley, Quincy, Mass., and was used in Florida waters during the late winter and early spring.

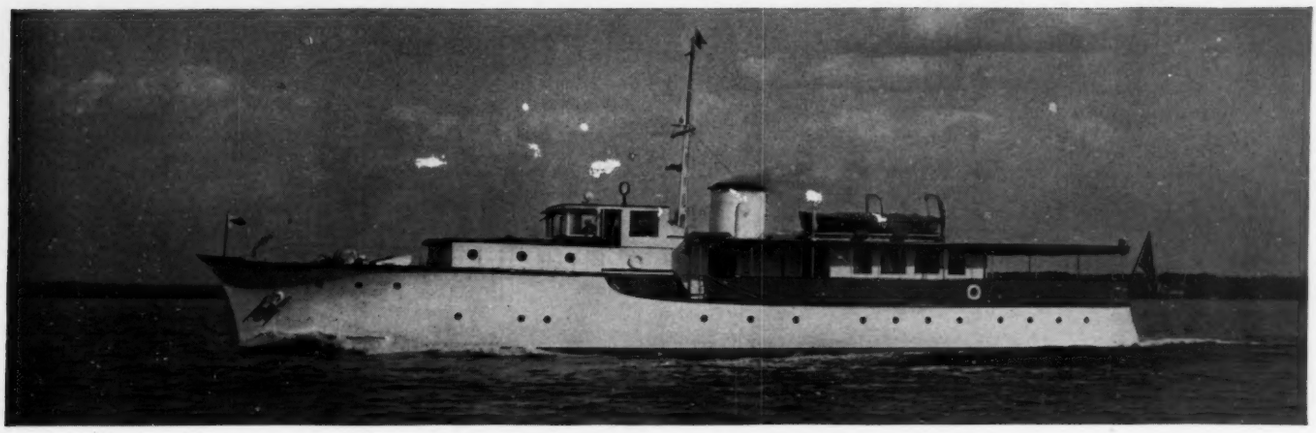
Having in mind the dual use for which the boat was intended, the designers have done a most original piece of work. The hull is 51′ 6″ long over all, by 12′ 6″ beam and 3′ draft of water. Power is supplied by two Sterling Dolphin engines, located under the after trunk cabin and bridge deck. These give a speed of 28 m.p.h., which is fast enough for any purpose.

There is a very large forward cockpit, for use when commuting, protected by a glass wind shield. Under the midship house is the day cabin, with wide transom, chart table, buffet and pantry. Sleeping accommodations are provided here for two persons. The steering bridge is amidships, with full controls, and has a wide, deep seat across the after end.

The after cockpit is arranged for fishing. It is amply large and has two swivel chairs for fishing chairs, a bait well under the after deck, and a fish well under the



Profile plan and layout of "Marlin," a 51-foot combination commuter and fishing boat, owned by Edsel B. Ford. Eldredge-McInnis are the designers



"Zamette III" returning from her trial trip on the Hudson River in May

floor. A small removable awning covers the forward end of this cockpit. On the after deck are auxiliary engine controls so that the boat can be handled from this position when a fish is hooked. There is also an additional steering wheel, located at the forward end of this cockpit, for use when trolling. Altogether, she is most carefully planned for fishing. There is plenty of room for handling rods, and for gaffing the fish.

Marlin is built of mahogany, finished bright, and is most pleasing to the eye. The forward cockpit is upholstered in leather and the main cabin is attractively finished and furnished.

"Zamette III," a 105-Foot Diesel Cruiser

ZAMETTE III, owned by Z. G. Simmons, Jr., of Greenwich, Conn., is the outcome of a growing demand for seagoing Diesel cruisers of moderate size. From designs by Cox & Stevens, Inc., she is a development of the *Lone Star* type, created by the same designers some two years ago.

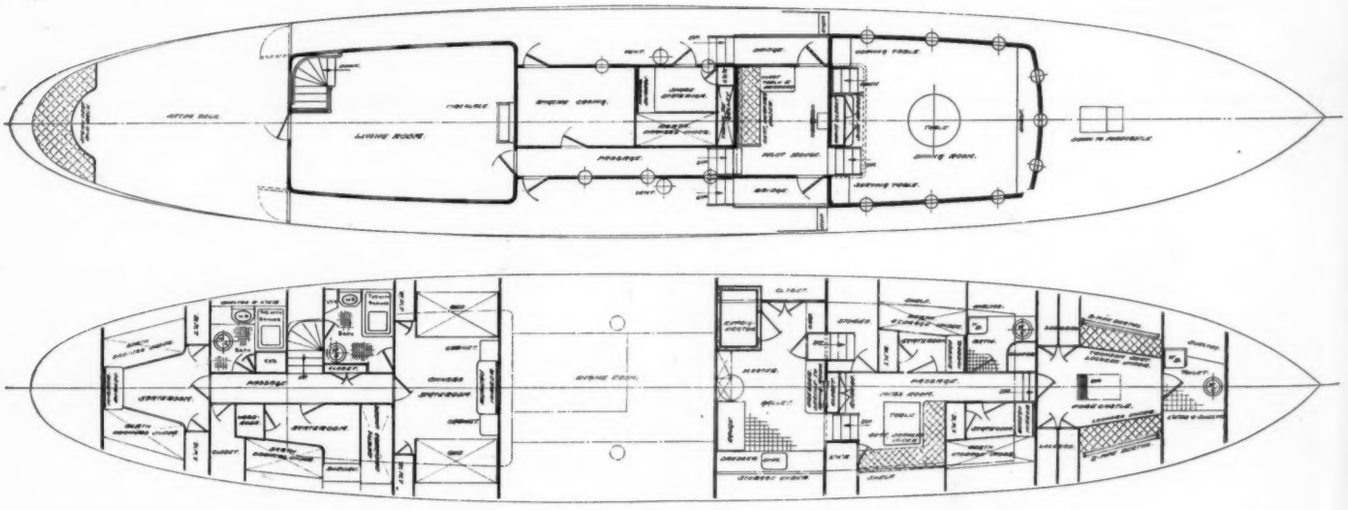
Zamette III is unusually husky and able for her size, her dimensions being 105 feet over all, 100 feet on the water line, 19 feet beam, and 6 feet 4 inches draft.

The main power plant consists of two 200 h.p. 6-cylinder Winton Diesel engines. There are also two 10 K. W. Hill-Diesel generators which furnish power for operating air compressors, pumps, ice machine, electric lights and the deck machinery. Fuel capacity provides for a cruising radius of 2400 miles at a speed of 12 knots.

The owner's quarters are spacious and include a living room, dining room, and single stateroom on deck, with three double staterooms and two bathrooms below. Exceptionally comfortable quarters are provided for the crew, and there is a large, well ventilated galley. The heating plant and galley range use the same fuel as the main engines and generators, which means that there is no gasoline on board, thereby affording considerable saving on insurance.

An unusual feature on a yacht of this size is the complete pilot house control, which has proved entirely successful in practice.

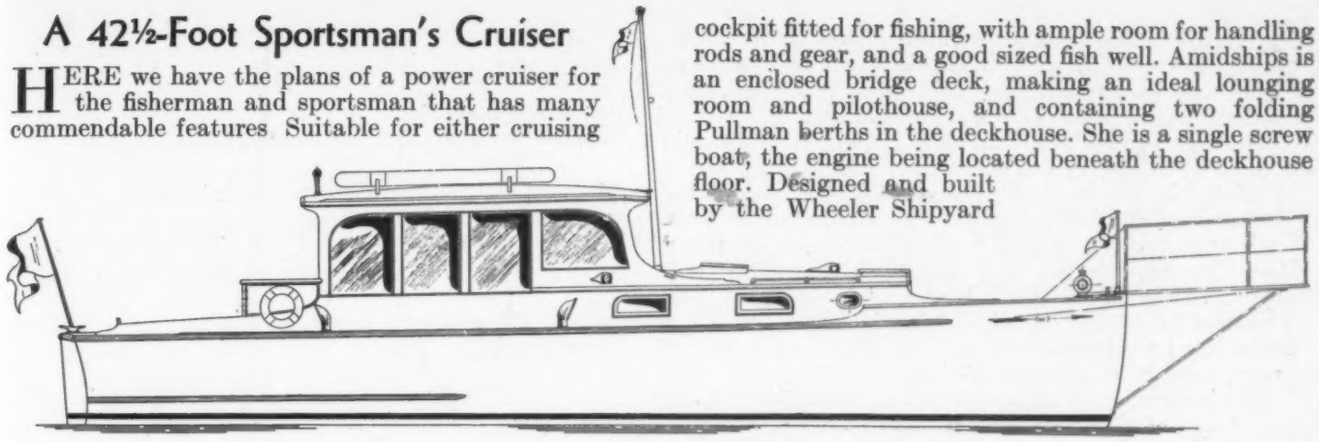
Zamette III was launched and ran her trials in May, off the yard of her builder, Julius Petersen, Nyack, N. Y.

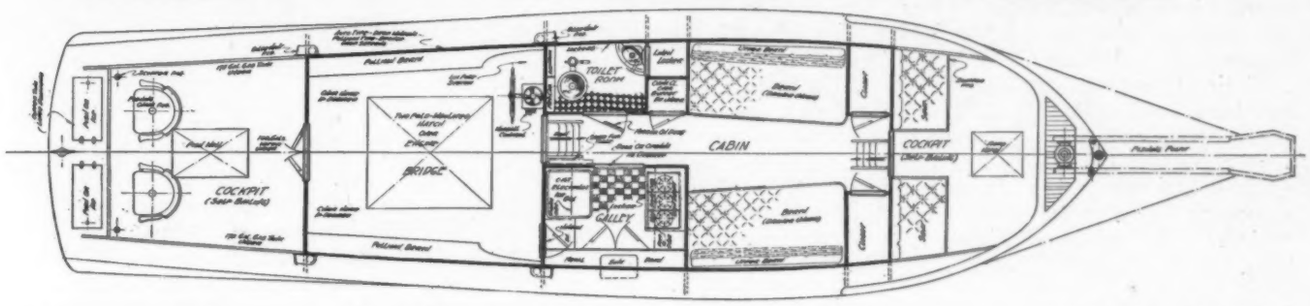


The accommodations of "Zamette III" are equal to those found in many larger yachts. They include living room, dining saloon, and owner's cabin, in the deckhouse, and three staterooms below

A 42½-Foot Sportsman's Cruiser

HERE we have the plans of a power cruiser for the fisherman and sportsman that has many commendable features. Suitable for either cruising or day use, we find a roomy cabin with upper and lower berths, a comfortable forward cockpit, and a large after cockpit fitted for fishing, with ample room for handling rods and gear, and a good sized fish well. Amidships is an enclosed bridge deck, making an ideal lounging room and pilothouse, and containing two folding Pullman berths in the deckhouse. She is a single screw boat, the engine being located beneath the deckhouse floor. Designed and built by the Wheeler Shipyard for a West Coast sportsman, this boat is 42½′ long over all, 41′ 9″ on the water, and has 11′ 6″ beam.

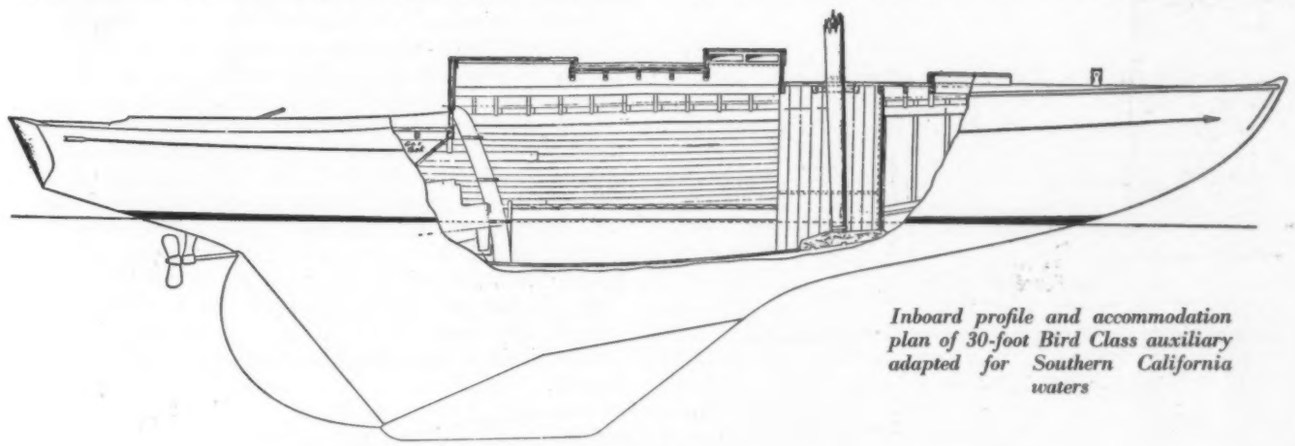




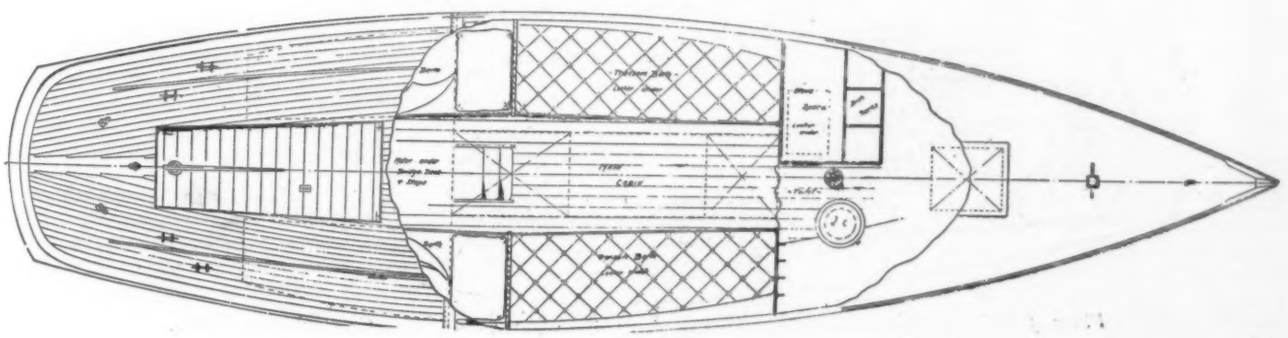
An Interclub Class for Southern California

THE accompanying plans by John G. Alden have been prepared at the request of a number of Pacific Coast enthusiasts as an adaption of the San Francisco Bay "Bird" sloops, by the same designer, for the lighter weather conditions which exist from Santa Barbara to San Diego, in the belief that such a type will fill a long-felt want.

On the Pacific Coast the one-design San Francisco



Inboard profile and accommodation plan of 30-foot Bird Class auxiliary adapted for Southern California waters



Bay "Bird" Class has grown into a fleet of 22 boats, and in prevailing fresh winds these boats provide more thrills and excitement for both crews and spectators than any other class in West Coast waters.

That the success of the improved Southern California auxiliary "Bird" is a foregone conclusion may safely be gauged by the number of keen prospects visiting the Harbor Boat Building Company's yard at Wilmington, California, where the first vessel is now under construction. The lines of the original "Bird" have not been altered, with the exception of an improved sheer line. The raised deck has been lengthened slightly and a low trunk has been introduced, adding much in the way of space, headroom, and ventilation.

The increased sail area from 395 to that of 465 square feet was balanced up with a slightly longer keel, or lateral plane, with 3,200 lbs. of lead. The outside weight was reduced to allow for the installation of a 25 h.p. Falcon motor, driving a Thompson feathering propeller.

Fitting in between the Star Class and the fast growing Southern California fleet of Six-Metre sloops, and making a strong appeal to the man of moderate means on account of small first cost, low upkeep, and slight depreciation, few one-design classes, perhaps, have brighter prospects of success than this improved Southern "Bird." The principal dimensions of the boats are: l.o.a. 30′ 1″; l.w.l. 22′; beam 7′ 8″; draft 5′ 2″.

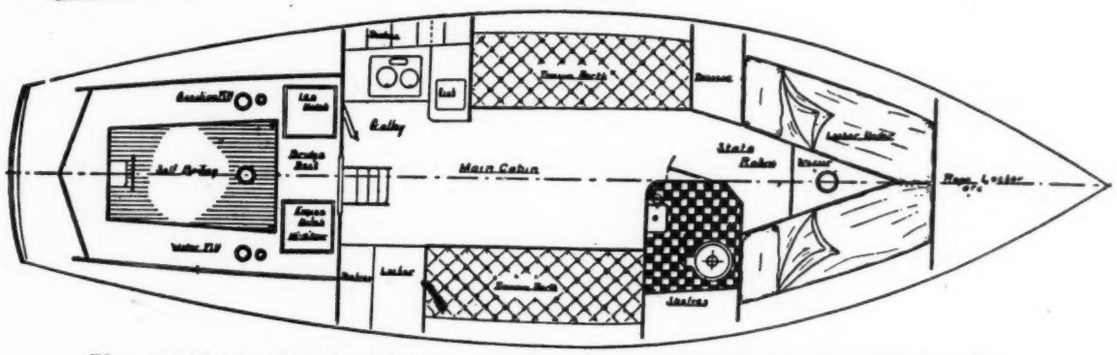
Sail plan of Bird Class, designed by John G. Alden

A New 34-Foot Ketch by Casey

THE plans of a new 34-foot ketch designed and built this year by the Casey Boat Building Co., Inc., of Fairhaven, Mass., are presented here as an example of an unusually well laid out boat for her dimensions. This little ketch is only 34′ long over all, 27′ 7″ on the water, 10′ 6″ beam, and 5′ draft.

The ends are short, but well turned, and the sheer is pleasing. Maximum accommodations both on deck and below are shown. The main cabin is not broken by bulkheads, yet the privacy of a stateroom is possible with the berths in the forward cabin, which can be separated from the main cabin by a curtain. There are two full length transoms, a toilet room, galley with coal stove, and plenty of locker and bureau space in the main cabin.

The auxiliary engine is a Gray 4–30, located under the bridge deck, with a separate hatch to the engine room. The ice box also fills through a hatch in this deck. The cockpit well is five and a half feet in length, giving, together with the bridge deck, plenty of room "topsides." The jib-headed ketch rig is modern and extremely handy. One man could sail her anywhere. The outside ballast is iron, and the planking and framing is amply heavy.



Plans of 34-foot auxiliary ketch designed and built by the Casey Boat Building Co., Fairhaven, Mass.

Under the Lee of the Longboat

by Cap Stan

BY THE time this appears in print the Cape May Race will be over, and the fleet which will start in the 2950-mile Transatlantic Race will be getting ready to answer the starting gun off Newport. Some thirty or forty boats will have it out in the former, while nine or ten craft will make the long trek across the Western Ocean. Just what are the chances of the craft in these races?

Doping out any long distance race is a tough job at any time, and while some fair predictions have been made in former years on this page, there have been times when they were pretty sour. However, here goes, for better or for worse.

The Cape May affair is a hard nut to crack — the fleet is a big one, and the course, particularly the leg from Winter Quarter Lightship to the finish, a bit tricky — not forgetting that the Battle of Montauk is apt to upset any and all calculations before the race is fairly under way. So we'll compromise a bit by merely saying that the boats which seem to have the best chances are *Malabar X*, *Teal*, *High Tide*, *Teragram*, *Mistress*, *Malay* and *Rose of Sharon*.

The Transatlantic Race is even more difficult. Right off the reel we are up against the fact that two distinct courses are available — the short Great Circle course, and the Southern, or Gulf Stream course. One or the other of these courses may be very much the right one — but no one knows which it is. The boat, or boats, which hit it right will come pretty near doing the trick, regardless of other factors.

As for the speed of the contestants, little reliable information is available. *Landfall*, the largest of the fleet, should be the first to finish on mere size alone — but she will have to save her time on *Highland Light*, *Mistress*, *Water Gipsy* and *Dorade* — the rest seem to have but an outside chance. The little *Dorade* is exceedingly slippery in light and moderate going. *Highland Light* is said to be fast off the wind but not so good to windward. *Mistress* the same. *Water Gipsy* has sailed so little that there's no good line on her, though she looks as though there was considerable speed in her, while she showed up well in a short tryout against *Dorade* and *Teragram* in very light going to windward. What any of these boats will do in rough water is merely guesswork. In rig, the cutter is ahead of, or even with, any of the two-stickers on all points of sailing, but may have trouble handling her big jib-headed mainsail. The schooners will be at a disadvantage with all other rigs running and beating, but will fare well reaching. *Landfall* and *Dorade* — jib-headed ketch and yawl — will run and beat well, but may be a bit handicapped in reaching. *Landfall* and *Highland Light* were designed, built and equipped especially for the race, and should have an advantage over the rest of the fleet for this reason. So, take your pick of the above five boats — your guess is as good as mine.

It is certainly gratifying to know that two British craft will be on hand to give battle to the Yankee fleet, especially as both of them, *Ilex* and *Maitenes*, are among the best of the British ocean racing fleet. It is a pity that the good old *Jolie Brise* won't be there — you'd have to figure her in the running, all right.

So there you are, Mates. It looks like a corking fine fleet. May they all get a good break on the weather, and let the best boat win.

\+ + +

There has been a lot of criticism lately of the Class M boats for the expense involved in rigging them with duralumin masts and trick booms, the claim being made that the increasing cost of producing a winning boat will drive many people out of racing. Apropos of this subject, the owner of a cruising schooner remarked recently: "No, I'm not going in the Cape May Race, because the expense of fitting out these days with all the trick sails necessary to make a boat go is a bit too much for me, and, I think, unjustified." One boat in the Transatlantic Race will carry 18 sails, and doubtless there will be others which will carry more. All kinds of expensive gadgets — marine speedometers, anemometers, etc., quite unnecessary for ordinary sailing and racing — help to swell the bill. You can't stop to consider expense — if you want to win. So far, the complaints are merely a murmur. Before long they may become a roar. When this happens, we may do something towards keeping down expenses to the point where it won't be necessary to be a millionaire in order to build and equip a boat for either long or short racing. If we don't, the game will surely suffer.

\+ + +

Just ran across an item in a foreign yachting magazine which claimed a world's outboard record had been made abroad with a British motor — speed, better than 54 miles an hour. Maybe it's official, maybe not. But the foreigners have been going great guns in all kinds of motor driven craft lately, and the old U. S. will have to look to her laurels.

Of Interest to the Skipper

+ + +

New Seagoing Lamps

W. & J. Sloane, of New York, have introduced an innovation in home furnishings which should be of special interest to the yachtsman who likes to have seagoing things in his home as well as on his yacht. The new idea is in the use of nautical gear for the bases of table or standing lamps. Brass mooring bitts, running and riding lights, wheels and propellers have been cleverly employed as bases for attractive lamps. In the running light lamp, the red and green lenses are illuminated from within. The shades on these lamps are decorated with seagoing motifs which are in keeping with the nautical scheme.

Two New Chris-Craft Runabouts

Jay W. Smith, President of the Chris-Craft Corporation, recently announced that two new 18-foot runabouts would be added to their popular line.

Both of these runabouts are luxurious and "peppy" and, in common with every type of Chris-Craft, they are noted for their safety.

In building safety into these craft, speed, of course, has not been overlooked. The Model 301, which sells for $995.00, is powered with a 6-cylinder, 63-horsepower engine, giving speeds up to 30 miles an hour. The Model 302 is the De Luxe and sells for $1,395.00, f. o. b. Algonac. It is powered with a 6-cylinder, 85-horsepower engine, giving speeds up to 36 miles an hour.

Both runabouts are finished in mahogany. The covering boards and king board are ebony black and match the black water line of the hull. White seam compound is used in the deck seams. The hull bottom is finished in red and matches the red upholstery which has a narrow black beading.

The freeboard is unusual and the beam very generous, contributing to seaworthiness and comfort.

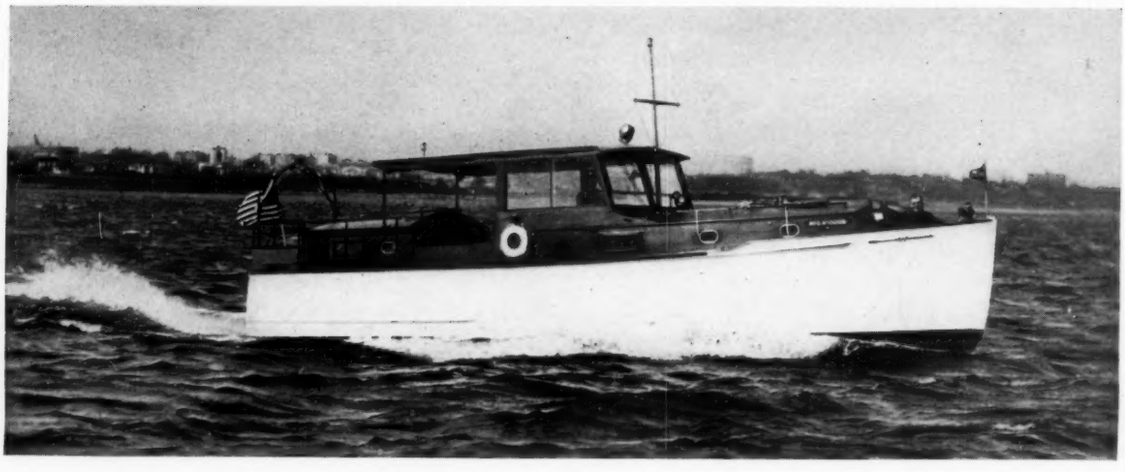
The steering is automobile type cam and lever, with throttle mounted on the steering wheel, making them extremely easy to drive.

Fifty Years of Service

This year the Buda Company, of Harvey, Illinois, is celebrating its fiftieth anniversary in the business world. While the Buda Company is known to the yachting world as manufacturers of marine engines, it was first established in 1881 to supply railroad equipment. In the years that followed the company undertook the production of numerous machine products which provided them with the wide experience which laid the foundation for the successful production of marine engines. To have weathered the storms of half a century in manufacturing is an achievement of which the officials of the company may be proud.

Right: Two 18-foot runabouts have now been added to the Chris-Craft family. The 63 h.p. model shown here gives speeds of 30 m.p.h.

Below: A Wheeler Playmate built for Lucien Letellier, of Quebec. "Miriam II" is a double-cabin cruiser 37 feet long. She makes 17 miles with a 150 h.p. Sterling Petrel engine



In the Long Beach-San Francisco ocean race "Colonel Rheem" turned in a creditable performance, placing third in Class B. She is owned by D. L. and R. S. Rheem, Oakland, Calif., and was built by Stephens Bros. A pair of Scripps motors of 200 h.p. each furnish power

New Hacker Representative in Chicago

Mr. Henry Hellmuth, sales manager of the Hacker Boat Company, has appointed Corwith Cramer, 228 North La Salle Street, Chicago, as the Hackercraft representative in the Chicago territory.

Mr. Cramer has a display of Hacker runabouts at the Motor Boat Mart in Chicago. Besides the line of all mahogany Hackercraft, speed boats and commuters, Mr. Cramer represents the Wheeler Playmate cruisers and Cape Cod sailboats.

A splendid showing of cruisers and runabouts which he is handling today are in a very attractive display at the Motor Boat Mart.

Scripps Nation-Wide Service

Mr. Andrew J. Downey, vice-president and general manager of the Scripps Motor Company, announces the completion of a new and extensive system of authorized service.

On the Atlantic Seaboard it is now possible for a Scripps-equipped boat to find adequate service facilities in all larger ports, and at no point is the distance between such stations in excess of 100 miles.

With authorized dealers and service stations already appointed in Canadian waters, along the St. Lawrence River, the Great Lakes and the West Coast, Scripps owners are assured of competent, experienced service and service parts wherever they may be sailing. It is further stated that a waterproof directory card of the entire list, suitable for tacking on the inside of the engine hatch or other convenient place, is being prepared and will shortly be available.

+ + +

Cutless Rubber Bearings Used in Record Run

Cutless rubber bearings manufactured by the B. F. Goodrich Rubber Company played an important part in the recent record run from New Orleans to St. Louis of the motor boat *Greyhound*, built by Higgins Industries, Inc., New Orleans. On examination, after the 72-hour run in the 23-foot sport cruiser, the propeller shaft and bearings were in perfect condition.

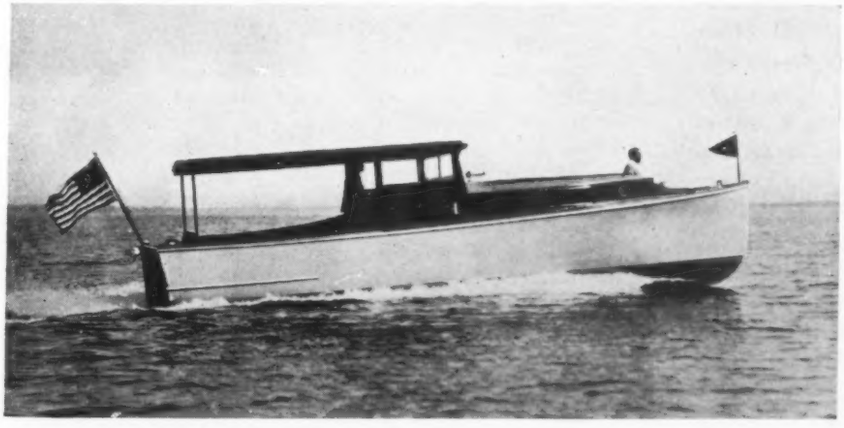
+ + +

The Marblehead Owners' Driveaway Cruises

Both the Driveaway Cruises for owners of new Marbleheads, one starting May 15th, and the other May 29th, were blessed with sunny skies and moderate winds. The route was down the Saco River, out past Wood Island, and along by the Yorks — with lonely Boone Island Light off to port —

(*Continued on page 117*)

+ + +



A demonstration cruise from Maine to Mexico has been undertaken by this Marblehead double-cabin cruiser which is powered with a Universal "Six" of 77 h.p. Staples, Johnson & Co. are the builders

+ + +

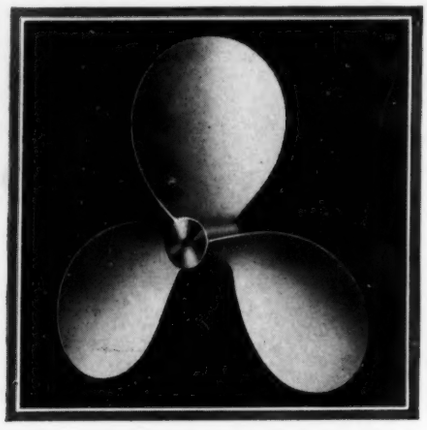
Marblehead Green in Two Shades

Marblehead Green is manufactured now in two beautiful and luminous shades of green, emerald and light, and is put up in case lots, as desired, in gallons, halves and quarts. Over a coat of red lead, Marblehead Green is used successfully on steel vessels without any corrosive effect.

Marblehead Anti-Fouling Green has been developed by Stearns-McKay Manufacturing Co., of Marblehead, after long scientific chemical research.

An Elco 35-foot Cruisette especially equipped for deep-sea fishing off the Jersey Coast

ACCOMPLISHMENT



Cap'n Allswell says: ***"Nothin' deadens the din o' failure like the roar o' success!"***

HERE at "propeller headquarters" pulses leap to a faster beat every time a winner flashes over the line; it usually means that a Columbian has again helped to make a record. Names like Harmsworth, President's Cup, Gold Cup, stand for glowing Accomplishments here as well as in the club houses of the country.

These great races are extremely important in influencing Columbian design. Equally important to us is the experience of a small army of that "salt of the earth" called the boat lover.

To the pacemaker, Accomplishment means faster time. To the boat lover it means uninterrupted pleasure. Columbians can be relied upon for both.

Let us send you our catalog, PROPELLERS IN A NUT SHELL.

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COLUMBIAN PROPELLERS

Books for the Yachtsman

ACROSS THREE OCEANS

By Conor O'Brien

(Philip Allan & Co. Ltd. 1931. 3/6d)

ACROSS Three Oceans, which now appears in its second edition, is, in reality, a delightful log of a two-year cruise from Dublin out to Australia, across the Indian Ocean and back again around the Horn, in the 42-foot ketch *Saoirse*.

What is particularly attractive from the standpoint of the yachtsman is that this book gives far more detail of the handling of the ship than is the case in many of the recent accounts of long cruises.

Although the long stretches at sea were broken by forced stays in port, these latter are more or less ignored, except for the activities pertaining to repairs and ship chandlery. The exception to this treatment is in the Falkland Islands, but the fascinating description of the whaling and sealing ships is well worth the deviation from the small yacht.

Throughout the volume it is interesting to note the change of ideas and practices as the author grows more accustomed to the technique of ocean work. Mr. O'Brien is a staunch adherent of the squaresail for long ocean cruises, and well he might be, considering the convenience it proved on more than one occasion.

What will particularly appeal to the sailor is the fact that *Saoirse* had no engine. It is an interesting cruise, well described, covering many miles of water, and not much land.

J. G. S.

A Winter Race in the Eighties

(Continued from page 52)

onto the weather rail and waved his sou'wester in wild exultation; he was ahead.

It was now blowing harder than ever. We were carrying three lowers, upper topsail and four jibs. Long and anxiously the Old Man went the rounds of the ship on the weather side. He looked over everything carefully; the shrouds, the lanyards, the chain plates. All were as taut as a fiddle string and singing a tune. We were outfooting *Quayle*, which had hauled down her flying jib.

When night came we went about. *Quayle* promptly followed. We were now on the port tack again reaching to the westward. Slowly we continued to outfoot our rival. She did not set more canvas nor did we take any in. Then *Quayle* went back to the starboard tack, but we kept on with our port tacks boarded.

We continued on the port tack, expecting the wind to haul and free us, but it headed us. There was more cussing from the quarter deck. *Quayle* was getting all the breaks in the wind. *Nellie* was put about. It began to snow and was growing much colder. I took a look at the amidships thermometer; it registered 29 degrees. That meant ice and trouble. Thicker and thicker it became, and *Nellie* dove like a huge porpoise into the long seas.

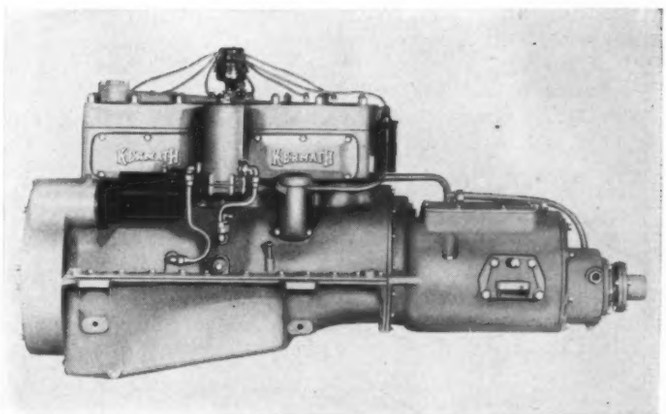
All night we drove her through swirling snow and cold spindrift. As we entered the Straits of Mackinac, passing Spectacle Reef, *Quayle* came bowling along from the eastward. We caught a momentary glimpse of her, and then a snow squall shut in.

To navigate the Straits of Mackinac in the night is bad enough, but to add a howling, driving snowstorm — well —

Graham Shoals on the north side of the Straits is exceedingly dangerous. Its approach shows no soundings, and navigating it calls for fearless and perfect judgment. The infernal wind drew to the westward and blew square down the Straits. No long leg and a short one was possible; it was just a dead beat to windward and no ship could stand very far on either tack.

JUDGE *an Engine by its* ENGINEERING BACKGROUND

80% of the World's Leading Boat Builders Standardize on Kermath Power . . .



Sea-Master Reduction Gear Model

The Sea-Master six-cylinder 40 to 85 horsepower marine engine is a tough, rugged power plant, phenomenally smooth, having a sturdy power torque or turning effort for hard usage at sea. It is one of the lowest priced sixes for its size.

IT ISN'T hard to understand why the tremendous popularity of Kermath remains undimmed by time and hard usage — why Kermath is still the accepted power leader in the entire marine engine field. Kermath builds to a standard — a standard that has withstood the acid test of the world's toughest proving ground — daily usage in every clime and country. Zane Grey, ardent sportsman, has recently taken delivery of *fourteen* Kermath engines to power his fishing boats and cruisers, both here and in the South Sea Islands. His wholehearted endorsement of Kermath dependability is no whit different than thousands of boat owners who have learned to judge an engine by its engineering background. Kermath marine engines are built in a variety of models, sizes and horsepower ranges—from 4 to 400 h.p. in two to twelve-cylinder designs. Catalog and full details on request.

KERMATH MFG. COMPANY
5893 Commonwealth Ave., Detroit, Mich.

This 27-foot standard Wheeler Playmate listed at $3,450 is powered with the Kermath Sea-Master for 12 to 14 m.p.h. Other Wheeler Cruisers are available with Kermath power in suitable horsepower ranges.

KERMATH

90 King St., W., Toronto, Ont. Fifth Ave. at 15th St., New York City 1045 Commonwealth Ave., Boston

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The Newest Idea in Compasses

THE KELVIN-WHITE SPHERICAL COMPASS

COMPASS
The talk of the Motor Boat Show

A steady positive card due to the special design of bowl and magnet system and to the glycerine damping chamber below the Compass bowl.

Send for special circular

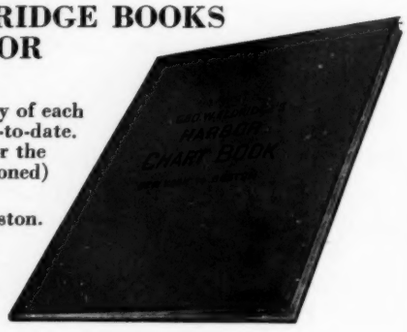
THE ELDRIDGE BOOKS OF HARBOR CHARTS

Published in May of each year. Handy, up-to-date. Just the thing for the amateur (or seasoned) yachtsman.

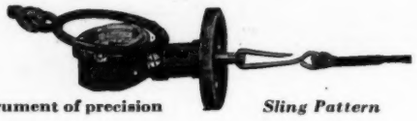
New York to Boston.

Boston to Bar Harbor.

Bound in heavy canvas.



THE WALKER *EXCELSIOR* YACHT LOG



An instrument of precision ***Sling Pattern***

Good for all speeds from 2 to 40 knots. Accurate, reads to 100 miles and repeats. Can be set to 0 each trip.

Kelvin White Co.

112 State Street Boston ★ **38 Water Street New York City**

Slowly we felt our way. Nothing had been seen of the *Quayle* since the snow shut in. Without warning, Skillagalee Light flashed out of the snow in a soft spot. In an instant the wheel was put down. My brother got a cast of the lead; three fathoms. Gosh! A close call! I took a look at the Old Man. His face was taut, but, catching my eye, he grinned. We now had a landfall and it had stopped snowing.

My father called me. Get two hours' sleep, he said. "I'm going through Beaver Island passage and I want you to steer her across to Summer Island passage."

Four hours passed. Five — six — and Summer Island Light flashed close on our starboard bow. *Then* we saw *Quayle*. She had a great bone in her teeth, and was taking the north passage.

The Old Man called my brother and put him in the lee mizzen chains with the lead. To leeward the heavy seas roared and fumed over the granite rocks. The instant we entered the passage, we would have to haul up.

The mate called the soundings while the captain stood by the wheel, and I watched him like a hawk. Five fathoms; four; four and a half; three fathoms, and close under our lee, oh, so close, showed the huge granite rocks. The water held at three fathoms and then shoaled a little. The captain had heard enough; we were nearly through. Quietly he spoke in my ear. "A half board, Ed; touch her lightly; don't get her in irons." I eased the wheel down and the big schooner flew up into the wind and head reached. Gently I met her and she paid off gracefully. With a terrific "Swish!" our stern passed the last of the huge rocks. We were through.

Suddenly I found myself wet with perspiration. Again the wind played havoc with us and again headed us, but it also headed the *Quayle* this time and we went after her, splitting tacks up little bay DeNoque. The goal was close at hand, and neither ship had any particular advantage. Both vessels reached in for the light on the point around which it was necessary to go to keep off for the ore docks. The ship that could weather that sand point without going about was surely the winner.

My father slipped quickly to my side at the wheel. "Ed, this race is ours," he said. "I'm going inside the light on this tack; there's twelve feet, but it's only fifty feet wide. When they built that lighthouse they put it outside the real shoal. Don't tip our hand; squeeze her up but not too close to let the *Quayle* outfoot us. He knows he's got to go about for a short stretch and thinks that we will have to also, but we're not. You can rub the paint off her on the starboard side; nothing to leeward, though. I'm going to leave you now. We have got to carry that centerboard clear to the shoal. I am going to put two men on each crank of the winch to take up the slack of the chain so it won't jam; the bottom will shove the board up for us. Watch your step!"

All I had to do was not to tip my hand and brush that lighthouse. On we stormed. The *Quayle* went into stays when about one hundred feet from the light. Before she knew it, we had lapped the light. A wild exultation stole into my heart. The lighthouse keeper was paralyzed. He waved his arms frantically, signalling us to go about — but it was too late now.

The sand boiled and spumed under our stern. I caught a glimpse of the four men at the centerboard. They were winding away like mad — and we foamed across — the victor.

The roar of our anchor had hardly died away when the *Quayle* dropped hers, and before she had stopped her sternway, her gig dropped into the water. Her captain climbed over our side and went straight to the quarter deck with outstretched hand, a hand of congratulation. "Hank," he called to my father, "D——n your old skin, I forgot to go about in watching you shoot the chutes over there by the light!"

LIGHTWEIGHT $99.75

-and it gives you everything that $150 used to buy!

IT'S A PLAIN FACT—in this Elto Lightweight at $99.75 you get value that formerly cost $150.00!

The Lightweight is *not* a small motor—it is *not* a "price" model. It *is* built to the highest specifications — full powered, finely constructed, beautifully finished, with Elto reputation squarely back of it.

Confidently expect from it the most satisfying type of service. Its 4 horsepower is ample for practically all rowboats, family boats, fishing skiffs, canoes and dinghies. In reliability, starting ease and quiet operation, it is not excelled by any motor. Most comfortable to steer, with vibration minimized by a shock-absorbing steering handle.

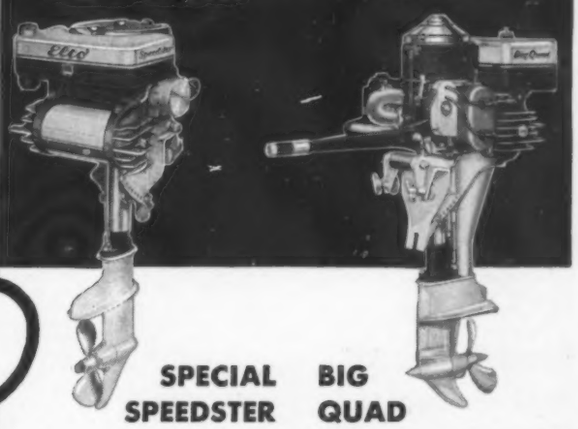
A near-by Elto dealer will gladly show you the Lightweight or other Elto models of any power and type your service may require. Nine models to select from—including three Quads—and four models with either electric starting or Eclipse inertia starter optional at moderate added cost. Write today for catalog describing all models. ELTO DIVISION, Outboard Motors Corporation, 3309 N. 27th Street, Milwaukee, Wisconsin.

Two-cylinder, 4 horsepower at 3000 R.P.M. Weighs only 38 pounds, lightest motor in its power class. Take-down feature reduces over-all length to 22 inches by removing 2 nuts. Motor is fully reversible. Fitted with inexpensive Troll Guide, will operate at slowest trolling speeds.

$125

FOLD-LIGHT

The smallest, lightest twin-cylinder outboard. Instantly folds to 17 inches over-all length. Develops 2¾ H. P. Equipped with new spring-cushioned steering handle.



SPECIAL SPEEDSTER

A powerful, speedy runabout and utility motor at an extremely low price. Develops 12 H. P. at 4000 R. P. M. Drives runabouts up to 25 miles an hour. Easy to start, sturdy, dependable. Price, $170.00.

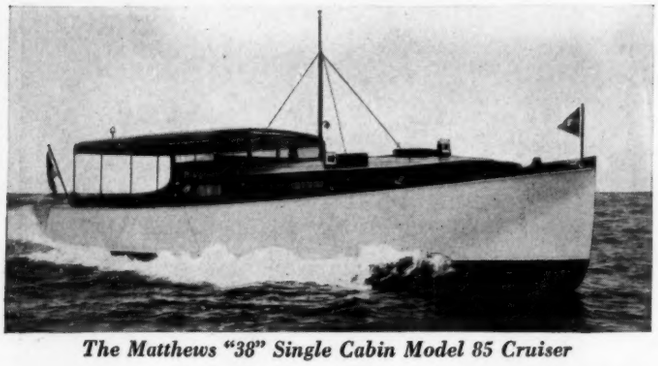
BIG QUAD

Fastest, most powerful runabout and big-boat motor. 4-cylinder, 40 horsepower. With electric starter can be fitted with complete remote control, operated easily as a motor car. Price, $375.00, with electric starter, $445.00.

Elto

BATTERY IGNITION OUTBOARD MOTORS

Husky Seagoing Action
and a COMFORTABLE HOME AFLOAT



The Matthews "38" Single Cabin Model 85 Cruiser

$5980

Afloat Port Clinton

THIS stalwart husky Matthews 38′ 11″ Cruiser with its extra broad 11′ beam, insures the last word in stable riding comfort—balanced safety—provides the most sensational cruiser values in America.

The Matthews Model "85" at $5,980 is identical in hull design, layout and materials to every other 38-footer in the Matthews 40th Anniversary Series. Its cabin has the luxury and homelike elegance associated with the finest of cruising yachts. Its excellent finish, fine details and bristling appointments suggest a price 30% to 50% higher.

Here's a matchless seagoing cruiser for the man who wants his boating dollars to travel a very much thriftier course. With its well equipped galley, four Pullman berths, extra large toilet, commodious lockers and extremely spacious after deck this Matthews model has no equal for price, performance, or comfort. Write today for complete information on the Matthews Model "85" at $5,980 or any other of the ten 38 and 46-foot designs.

"38" Matthews "46" OUR 40th YEAR

Write *for* Booklets on Matthews "38" and "46" Cruisers

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SALES AND SERVICE: Bruns, Kimball & Company, 5th Ave. at 15th St., New York City. The Barrett Company, 112 Second St., Louisville, Ky. Allmand & French, 6460 East Jefferson Ave., Detroit, Mich. Bender Marine Company, Bay Front, Erie, Pa. Boardman & Flower, 1740 VanNess Ave., San Francisco, Calif. Flood Gate Motor Boat Sales Agency, 14th and Water Sts., Washington, D. C. Wm. V. Masson, 1619 Baltimore Trust Bldg., Baltimore, Md. Mississippi Valley Yacht Sales, Times Bldg., Alton, Ill. Walter Moreton Corporation, 1045 Commonwealth Ave., Boston, Mass. O. H. Olsen, St. Simons Island, Ga. R. Sealy, Commerce Bldg., Galveston, Texas. Sebo Boat Company, 3206 Main St., Houston, Texas. Florida Branch, 18 McAllister Arcade, Miami, Fla.

THE MATTHEWS COMPANY

Designers and Builders of Luxurious Cruisers . . . Since 1890

314 Bay Side Port Clinton, Ohio

In Retrospect

(*Continued from page 75*)

departure from Philadelphia of the American four-masted steel bark *William P. Frye* two men jumped overboard soon after the vessel began towing down the Delaware, and were drowned. The river water in February is not at a temperature conducive to long swimming. There was one instance of a big American ship which, upon leaving New York, and when the mate was doing the customary rousting out of the crew from the forecastle, preparatory to getting under way, found that one man in his bunk did not respond. It developed that the man had been put on board dead. No special attention had been paid to his being carried on board, as intoxicated men were the rule and not the exception. The saddest part of it from the captain's and owners' point of view was that "blood money," plus a month's advance, had been paid for him.

What I am contending is that the officers of the ship had to endeavor to make some sort of sailors out of rather hopeless material, and often had to deal with men who had never known discipline, some who were shiftless and lazy, and others who were just plain bad. This was where the big, iron-fisted mates came in, force being the only argument understood or respected by the men forward.

British discipline suffered in some cases because of mild-mannered young officers who had graduated from apprentices, and who were not held in any great respect by the crew. Knowing that they were protected by the kindly laws of Great Britain, the men forward would be openly disrespectful and slack in performance of duty. Take a ship under such conditions, put a couple of "Bluenose" mates on board, and the change would soon be noticeable. At the faintest show of insubordination, either of the mates, or both, would promptly knock down the trouble-makers.

The happiest ships were undoubtedly the ones where discipline was strict, without being harsh and brutal, and all hands knew what was expected of them. Some captains and officers abused their powers, and treated men with cruelty, but the great majority of ships were business institutions and functioned as such, coming and going without anything unusual happening on board. I mean anything unusual from the sailor's standpoint.

It must not be assumed, either, that all British ships were slack in discipline, as many of them could set a splendid example in all 'round efficiency. There was a tendency in some quarters to speak contemptuously of apprentices on British ships, largely, I suppose, because they were not roughnecks. Yet many of those boys made good sailors. On more than one occasion, leaving port when I was an apprentice, the boys got sail on the ship, the men being hopelessly drunk.

Then again, at Calcutta, the eight boys of the *Kentmere*, under the supervision of the two mates and aided by the carpenter, sent up a new fore topgallant mast, and shortly afterward sent up topgallant, royal and skysail yards on three masts. In accordance with port regulations of those days, vessels arriving were given 48 hours in which to send down all yards above the topsail yards, because of typhoons and storms. It depended a good deal upon the captain, and to some extent, the officers, as to what the boys might learn — and amount to. Given the opportunity to do what was known as "sailorizing," i.e., helping some competent sailor on interesting work, such as splicing, setting up rigging, etc., a boy could learn a great deal. Many of them, who were fortunate enough to get on the right kind of ship, did learn a lot. I cannot imagine a boy who served under Captain Andrew Baxter, for instance, not acquiring useful knowledge and experience.

IN THE COURT OF PUBLIC OPINION

FUEL OIL RANGES

S____ Fdry. Company, *Plaintiff*

vs.

Several Reputable Fuel Oil Range Manufacturers, *Defendants*

DEFENDANTS ANSWER:—

1. Responding to the statement of the plaintiff who has spent a part of the five months last past experimenting with a "Ray" Midget Oil Burner in a small *cast iron stove*, which statement startled the boat owning public in the June issue of three Yachting publications, with the news that "While a range that would successfully burn diesel oil had been desired for some years, nothing that had been produced thus far was satisfactory," the defendants assert that the distinguished plaintiff went far afield to call attention to the results of their limited experience (for to say the least, or the most, such an experiment could not be considered an expert opinion or conclusive evidence in view of the very limited time spent in acquiring same) especially when they either did not know or overlooked the fact that the Ray Mfg. Co., of San Francisco and the Ingle Mfg. Co., San Diego, in the State of California, have for the past ten or fifteen years been successfully manufacturing steel fuel oil ranges which have been adopted by the several departments of the Federal Government, in addition to many prominent Ship owning, Hotel and Industrial establishments, and in addition, several midwest manufacturers of steel ranges have put out ranges suitable for fuel oil, leaving the purchaser to select and install their preference of oil burning equipment.

2. Under the circumstances, the statements of the aforesaid plaintiff, must be attributed either to lack of information and unfamiliarity with their text or a deliberate attempt to misrepresent a situation and to appropriate to themselves an achievement of which they are only beginning to learn the A, B, C's.

3. The subscribing defendant asserts that since January of 1926, they have been the East Coast licensee and manufacturer of the Valjean Carburetor Oil Burner, employing them in a complete line of fuel oil burning ranges, ranging from 2½ to 12 ft. in length, also for installation in heating boilers and other similar devises, which fact, from magazine and trade publications and other forms of advertising and publicity, is well known to Ship, Boat and Yacht owners and the following copies of letters of endorsement marked exhibit A, B, C, D, indicate that their equipment was not only satisfactory, but very well regarded.

4. The defendant further avers that there are situations where a natural draft burner of the aforesaid type cannot be installed to advantage on shipboard and the defendant in such cases, uses as substitutes, the "Ray" and the "U. S." in their range equipment with most satisfactory results.

5. The defendant further avers that hundreds of visitors to the N. Y. Motor Boat Show of 1931 will recall seeing these several burners on exhibit at the defendant's Booth, one in a Monel range for the first time exhibited, the Ray Midget Burner (shown for the first time in a public exhibit), Ray Pump type and a "U. S." and having had the advantages of the different types thoroughly explained by a competent authority to them.

6. The defendant further avers that since the above Show, the distinguished plaintiff has made the remarkable discovery that they are the inventors and sole manufacturers of the first and only successful fuel oil range, a statement which the defendant believes the public will accept with the proverbial grain of salt.

7. And thus the defendants singly and collectively ever pray.

ELISHA WEBB & SON CO.

136 S. Front Street Philadelphia, Pa.

Manufacturers of WebbperfectioN Ranges since 1896

EXHIBITS

DIAMOND P TRANSPORTATION CO.
Coastwise & Inland Freighting
151 So. Front Street

Philadelphia, Pa., July 21, 1927.

Elisha Webb & Son Co.,
136 S. Front Street,
Philadelphia, Pa.

Gentlemen:

After trying out a number of Oil Burners in Galley Ranges with results that were not very satisfactory, we installed on our New Motor Tug "SAMSON" one of your 3 Ft. Webb Perfection Ranges with Valjean Carburetor, in which we burn the same grade of oil that is used in the Ingersoll Rand Marine engine, and the outfit proved so satisfactory that we had you install one of the Carburetors in the Ideal heating boiler, with which the boat is equipped, and this installation being as satisfactory as that in the range, we had you duplicate the installation on the Motor Tug "SONITTEP" where the results were equally as satisfactory.

We also had you install a Carburetor in the heating boiler on the Motor Tug "HUSTLER" which had proven satisfactory.

We had been two years experimenting with other makes of Burners with lots of trouble and expense, but we used your outfits all of last winter and have nothing but praise to say for these installations and do not hesitate to endorse them.

Yours respectfully,

Diamond P Transportation Co.
J. L. Crawford,
General Manager.

Exhibit "A"

YACHT "SEA KING"
Sailing W. Baruch
New York

Miami Beach, Fla., April 22, 1928.

Elisha Webb & Son Company,

Dear Sirs:

I am using one of your Valjean Carburetor Oil Burning Ranges. It is a wonder. I have used all kinds of oil burners but I have never found one to compete with this one. I would like to have you give me the lowest price on a small one-oven range for my home. I will gladly give any information about the burner to anyone who is interested.

(*Signed*) Fred Denner,
Chef, Yacht Sea King,
General Delivery,
Miami Beach, Fla.

Exhibit "B"

YACHT "VANDA"
6 Beacon Street
Boston, Mass.
c/o E. B. Dane

May 28, 1929.

Elisha Webb & Son Company,
136 S. Front Street,
Philadelphia, Pa.

Dear Sirs:

In regard to your range, I answer that I have had experience with a number of different types and none can compare to yours. It burns about 6 gallons a day which is very economical.

There are thirty-four in the crew and we sometimes have eight or nine guests. Your range takes care of them all, and would take care of more if we had them.

I will gladly recommend your range to anyone who desires to hear about it.

Yours truly,

(*Signed*) Louis Leblanc, *hef.*

Exhibit "C"

YACHT "VANDA"
Chappels Ship Yard
New London, Conn.

November 20, 1930.

Messrs. Elisha Webb & Son Company,
Philadelphia, Pa.

Gentlemen:

Please ship to the above mentioned Yacht at above address one large Valjean burner suitable for the range installed therein. I may state that those burners in my opinion are unexcelled for regular and consistent performance under any conditions. You will please send bill for burner to me personally, at above address.

Respectfully,

H. A. D. Cameron,
Master.

Exhibit "D"

(*Case Continued in August Issue*)

As for Merchantmen
So for YACHTS

Thousands of America's merchant craft have sailed under the protection of Atlantic Mutual Insurance during the past 90 years.

In this span of time, "The Atlantic" has insured, in round figures, over forty-one billion dollars of property.

Today, yacht owners, too, are offered the low cost and equitable dealing of Atlantic Mutual Insurance, the benefits of which, during the past 90 years, have won the preference of hard-headed, practical ship-owners.

In the form of dividends, ATLANTIC MUTUAL PROFITS REVERT TO THE ASSURED

Inquire direct from us—or through your broker

ATLANTIC MUTUAL INSURANCE COMPANY

Chartered 1842

51 Wall Street (Atlantic Bldg.) New York

Boston Office: 33 Broad Street

Is a New Type of Hydroplane Coming?

(Continued from page 40)

membered that another Hacker multi-step boat, *Miss Rioco III*, which Ralph Snoddy drove to win the Duke of York Trophy on the Thames, easily winning all three heats, was a three-step hydroplane, and this little boat piled up a lot of victories in contests on this side also.

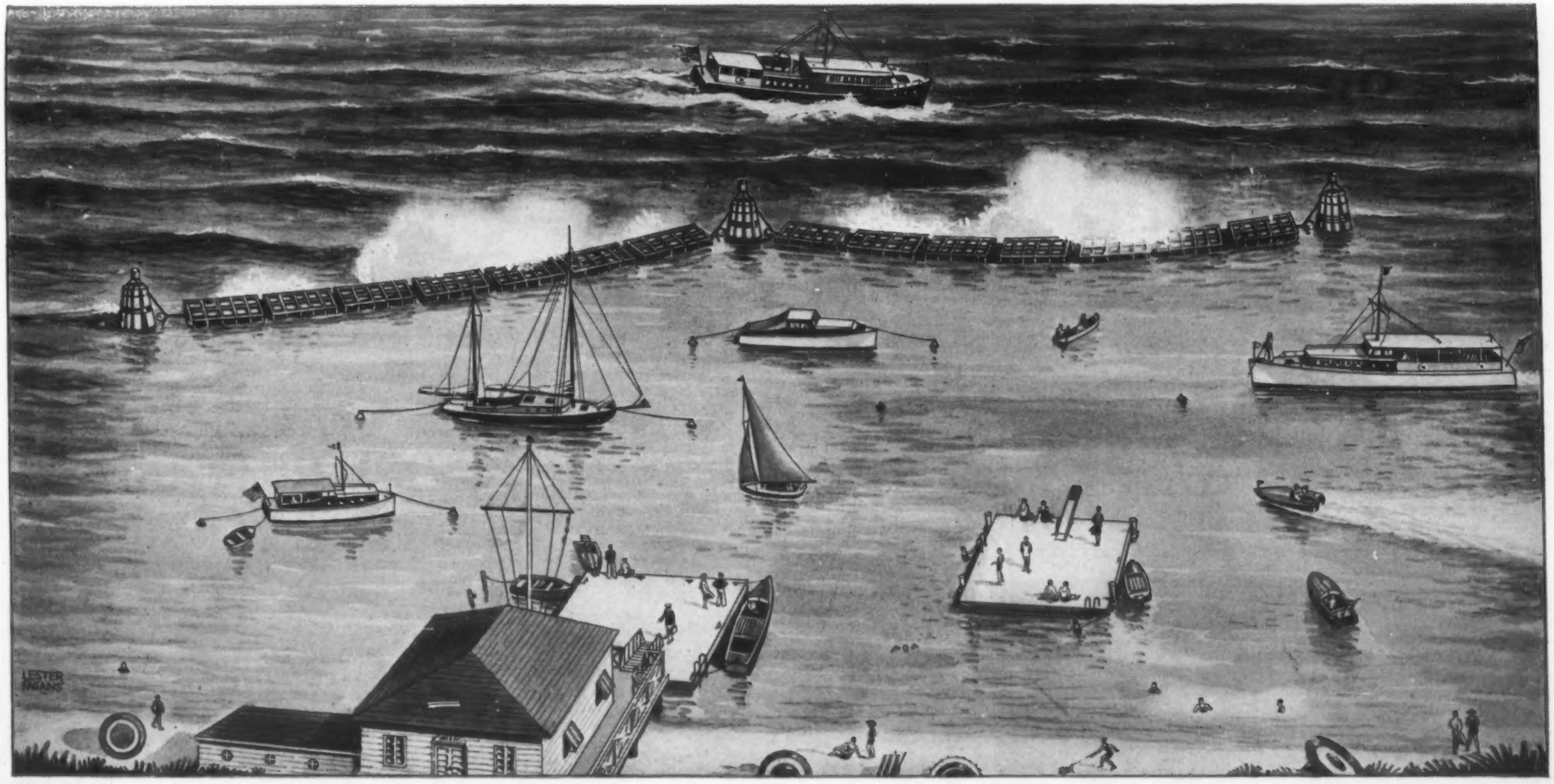
In all, John Hacker has designed about 25 multi-step boats in recent years, and until recently believed that a properly designed multi-step boat is probably faster, as well as more stable, than a single-step model of otherwise identical specifications. He is now, however, engaged in some experiments during which he has become non-committal as to the general comparison. His recent creation for the King of Siam is a two-step hydroplane, known to be very fast and able in performance. Hacker once told the writer that more care had to be exercised in multi-step designs as to proportions, the depths of the steps, their position in the boat's length, etc., than in single-step models, of which he has designed a number of fast ones, especially in the 151-cubic-inch hydroplane class.

Another Gold Cup boat which attracted wide attention, although a jinx rode on her bow like a figure-head, was *Jersey Lightnin'*, Gold Cup challenge boat of Gerald C. Holbrook, in 1929. This boat is a single-step hydroplane, but a radical design, nevertheless. She has her single step in a rounded "V" shape and she was a tunnel stern model. In practice, she ran like a scared jack rabbit. She had undoubtedly the smallest wetted surface in proportion to her size of any motor boat known to date, and this reduced the drag of the water enormously. She was clocked unofficially, but by a number of experienced timers, at something like 68 miles an hour on the straightaways, and she was regarded as one of the most formidable contenders for the trophy. Her accident — due to a broken fin on a curve at full speed — which injured her fearless owner and robbed her of her speed, is well known in the annals of the Gold Cup.

However, this boat has hordes of supporters today and the design is believed by many competent to judge to represent a distinct advance in underbody design for racing boats. She traveled on the tip of her step and on the two small patches of underbody at the stern, and it took fins to give her more contact with the water for the purpose of taking the turns. Her designer, Crouch, had decided on only three points of suspension, so to speak, for this reason: It is the water which has already been disturbed by the forward plane which renders the after planes inefficient. In this design the water disturbed by the tip of the step in the center of the boat would at least partially pass through the tunnel in the stern, and thus the after surfaces would be coming in contact with the water for the first time, lift being found at the point of impact.

Her designer, it will be remembered, also brought out *Rainbow II*, a displacement hull under the rules, but which carried two longitudinal steps. The definition of a displacement boat referred to the longitudinal continuity in the underbody but failed to include the transverse. Crouch designed this boat with a ridge underneath her, formed by two deep longitudinal steps, and on this she traveled in speed. The surface between the longitudinal steps and the chines acted as wings or shoulders and when she leaned over they touched the water and gave her support at point of contact. She was fast, and able, too.

This same idea is found in *Californian*, the spectacular and radical Gold Cup challenge boat of Richard F. Loynes, of Long Beach, California, which showed astonishing speed for the class, although she met with disaster. *Californian* had the longitudinal steps and the



A PRACTICAL STEEL FLOATING BREAKWATER

This steel floating breakwater, of gigantic strength, is composed of a series of thirty-foot sections, coupled together like a train of cars and moored with a series of seven pile dolphins. Each section is floated with two extra heavy steel pontoons. Between the pontoons a heavy STEEL BULKHEAD, thoroughly braced, extends down in the water to within a few feet of the bottom at low tide. Each 30-foot section of the Long Island Sound standard weighs 36,500 pounds. The California standard weighs 45,000 pounds and carries a deeper bulkhead and larger pontoons. The breakwater is loggy and has the effect of a heavily loaded vessel, or floating iceberg, with not enough buoyancy to ride the top of the waves, making the breakwater, in effect, a partial lagoon. The chop, or breakers, strike the breast of the bulkhead and are forced to duck under, or splash over the top, thus providing a perfect harbor for small craft. They are superior in every way to the solid, unsightly and dangerous, rip rap breakwater, and do the work as effectively. They are designed to meet the most strenuous conditions prevailing on the Ocean fronts of the Atlantic and Pacific seaboard. Ideally suited to the requirements of yachtsmen on the Pacific Coast. Their saving in cost over stone breakwaters is an important factor. Fabrication of steel work can be done on either coast as subsidiary plants are also maintained on the West Coast.

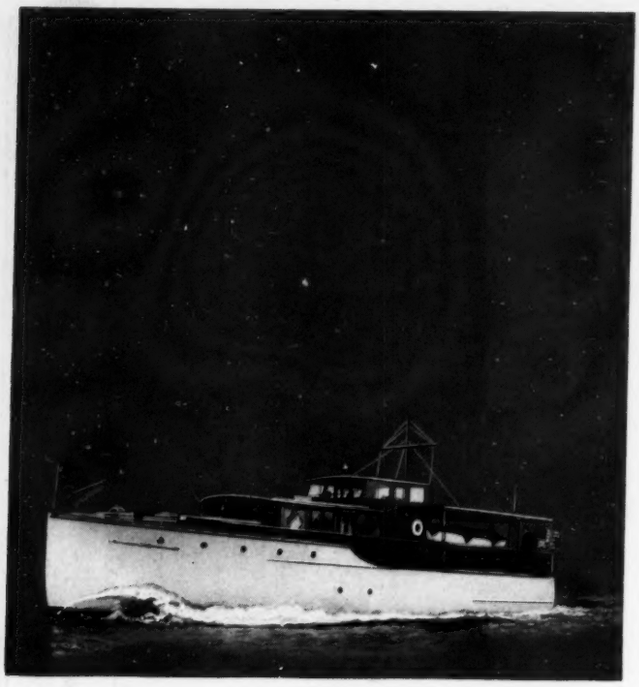
WALSH-BUGBEE COMPANY, Inc.

General Marine Construction Engineers

ALLAN B. WALSH, *Pres. & Gen. Sales Mgr.*

Factory Office
206 E. Hanover St., Trenton, N. J.
Telephone: Trenton 6257-6258

New York Sales Office
4 West 56th Street
Telephone: Bryant 9-1700



Wheeler's Sensational 62-foot "Playmate" Yacht

This big brother of the Wheeler fleet of "Playmate" Cruisers is one of the most conspicuous yachting values ever offered. It was originally constructed from individual specifications, but proved such a tremendous success that it has been standardized. It is one hundred per cent seaworthy, and combines all the homelike comforts of a houseboat with the speed and beauty of a cruiser yacht. Let us send you detailed information.

The "Playmate" Line consists of twenty-one models — 22 feet to 62 feet. Every boat is built strictly in accordance with the nationally-known Wheeler methods, which assures a boat of striking appearance, staunch construction and complete reliability.

Write for Catalog B and for new Booklet, "Wheeler-Built"

WHEELER SHIPYARD, Inc.

Foot Harway Avenue

Brooklyn, New York

Phone: MAyflower 9-7600

ridge on which she rode in speed, like *Rainbow II*. And she had a transverse step also, all of which gave her, too, an unusually small wetted surface as she ran. Her engine was also radical, and it turned at about 2,000 r.p.m. faster than those of her rivals, so some of her superior speed must be credited to her 16-cylinder power plant. But by all the laws of marine propulsion, *Californian* is of a very fast and able design, perhaps the model for a whole fleet of racing hydroplanes in forthcoming seasons, as is *Hotsy-Totsy*.

It is apparently becoming the practice to add steps to single-step challengers of the Gold Cup class to add to their ability, as judged by the two additional steps on *Red Banker*, the Banfield-designed boat of 1930. One of these new steps is up near the bow, usually called a compensating step, as it supports that part of the boat when it comes down in a rough spot and thus straightens her out. *Scotty's* new step is also a compensating step.

The multi-step hydroplane, in the opinion of George F. Crouch, who, incidentally, is credited with bringing out more original designs than any man living, is not as fast as an equally well designed single-step hydroplane of otherwise identical specifications. Crouch has been noting with much interest the present tendencies to develop variations in the hydroplane design which will be more efficient than the prevailing type.

In a recent discussion with the writer on this subject, he said: "It seems that some designers are going back over the same ground as that covered by Fauber twenty years ago, and by others since. This retracing of our steps is not necessarily to be lamented. It is possible that at some stage along the way some new factors not yet known will be adduced.

"However, the single-step hydroplane is more tricky as to the correct adjustment of weights and other factors, more intricate a problem for the designer, but faster when right. The multi-step hydroplane is far more stable, a better all-around fast boat and can have plenty of speed in connection with ability in a seaway. I believe that successful multi-step hydroplanes can be built as stock runabouts, and will be some day. This model is far less sensitive than the single-step design because it is supported at more points along its length instead of at only two points. A single-step boat has concentrated lift and if she goes down by the head on a rough spot she tends to dive because she has not the well dispersed points of lift given by multiple steps, including the compensating step forward. In the single-step hydroplane, the relationship between such factors as distance between forward and after planes, the angles of the planes, the height of the step, and the position of the center of gravity, must be correct and precise. Any error in these factors will ruin the result, and even the position of the propeller has a vital bearing on the problem.

"There are surely possibilities yet unrealized in other than single, transverse step forms and every variation tried out is just that much progress toward finding them, since, if it is unsuccessful, at least it eliminates that particular one from the future. In the single-step forms, I think there are also possibilities in "V" and tongue-shaped steps, which are also being tried out here and there in isolated designs.

"It is merely a matter of time until somebody, somehow, will find a type of underbody in which all, or almost all, the surface in contact with the water will be active. This may come by a series of advances, with time in between, when some prevailing type will seem the ultimate. But it will come, and the present tendency toward radical experimentation in all classes, including the outboards, is healthy and promising, even though we may be at times repeating what was already done years ago by pioneers."

Gambling With the Gods

(*Continued from page 65*)

of which shows the wind conditions which may be expected on the approach of a low barometer disturbance, on a ship to the north and on a ship to the south, respectively, of the storm track; and one of which shows an actual weather map based on a somewhat meager newspaper weather report, with accompanying predictions.

The following extracts from the newspaper report give the data on which the charting of the map was based: "Saturday May 16 — 8 P.M. The Northeastern Disturbance is centered tonight north of Newfoundland, Belle Isle 29.38 in., and the pressure continues low thence northwestward — The disturbance that was over the upper lake region . . . now extends from Missouri to Nova Scotia, Yarmouth, N. S. 29.48 in., Fort Wayne, Ind. 29.68 in. . . . The far northwestern disturbance . . . central over Alberta, Edmonton, 29.30 in. . . . with a trough extending to Utah, Salt Lake City 29.70 in."

Not a very complete report, but a particularly interesting one, because it gives, within the field of observation, three distinct disturbances; and gives the weather gambler plenty to bet on. From the map, one could be reasonably certain of at least twenty-four hours of cloudy weather, with probable showers; the best one could hope for on wind would be somewhere within 45 degrees of your prediction. Trough *B* would have little influence; trough *C* would call for S.W. winds, shifting to W. or N.W., were it not for the approach of trough *A*, which calls for S.E. winds, increasing. The guess that trough *A* would have sufficient influence by Sunday to cause S.E. winds was a little previous, but the guess that the northern high would counteract trough *A* to some extent on Monday, and cause light variable winds, and that Tuesday and Wednesday would bring S.E. to S. winds, increasing, proved correct. By Wednesday afternoon the wind was fresh S.W., with showers at night, and these conditions maintained throughout Thursday and until Friday evening, as the trough moved slowly northeastward along the St. Lawrence valley. Friday night the expected shift to N.W. materialized, and held with fresh to strong velocity throughout Saturday and Saturday night, diminishing Sunday.

If you will refer to the chart showing wind shifts, and imagine yourself on the ship to the south of the storm track, you will see that, in general, the game was played according to Hoyle.

I have reserved until now discussion of the speed of travel of these "disturbances," because, although it has an important bearing on prediction, it is highly indeterminate. Some idea of the average speed of travel of storm centers is given in the chart on wind shifts. But their speed of travel may vary from almost a standstill to 1000 miles a day. Were it not for this fact, and for a few other neat little vagaries, weather might be predicted with some confidence for a week or more in advance. As it is, the first thing to do is to compare, if possible, the reports of two or three days in succession; once a disturbance has struck its stride its speed of travel can be gauged fairly accurately. Failing this, about all we can do is to base our estimate on the rapidity with which the wind increases and shifts, and the rate at which the barometer changes its height.

If the foregoing has not convinced you that weather forecasting contains sufficient elements of chance to give it zest, I can only urge you to try it out. I have held to the simpler methods, without delving into the confusing realm of deviations from "the typical" which sometimes occur and cause even the most expert to scratch their heads.

The "Mandalay"

The winter of 1930–1931 from a yacht building standpoint can scarcely be compared with last year's. This office has, however, designed and built over sixty yachts. Most of these are good sized craft. We show above one of the smaller ones, a cutter built for Mr. Frank Vining Smith, the well known marine artist. She has already attracted considerable interest and accounted well for herself in one of the first races of the year.

The measurements are 38′ 5″ overall x 30′ 10″ waterline x 10′ 8″ beam x 6′ draft. Under sail her rig is handy, and she is fast. Under power, her engine drives her along at a good speed. Below decks, one finds four real bunks, an unusual amount of locker space, chart room, and comfort.

A yacht such as this can be built at a surprisingly low cost this year. This fact is true of all sizes. May we not discuss with you the question of building? The records of the large number of craft of all types from Mr. Alden's designs is the best guarantee of satisfaction you can have.

John G. Alden

Naval Architect *Yacht Broker*

148 State Street, Boston, Mass.

New 18-footers

The first 6-cylinder quality runabout priced under $1,000

STANDARD MODEL

63 H. P.—Speeds up to 30 M. P. H.

$995

Completely Equipped

Length, 18′. Beam, 5′ 10″. Freeboard, forward 26¾″, aft 17½″. Moulded depth, forward 39½″, aft 29″.

Positive cam and lever automobile type steering (no ropes or cables); full salt water equipment.

Standard equipment includes full vision, slanting windshield; 6 life preserver cushions; automatic bilge bailer; lifting rings; electric running lights, dash lamp; starter and horn; instrument panel and tachometer; combination light and ignition switch; fire extinguisher; bow flag and stern ensign; 30 gal. gasoline tank; anchor and rope.

Inquire also about the new 15½-ft. Chris-Craft runabout priced at $795.

Chris-

RUNABOUTS SEDANS — COMMUTERS

CHRIS-CRAFT CORPORATION— 407 DETROIT ROAD, ALGONAC, MICHIGAN

by Chris-Craft

YOU can travel far, and fast, and safely, in this smart new 18-foot Chris-Craft . . . a triumph of marine design, construction and value, and the first 6-cylinder quality runabout priced below $1,000.

It is a big, husky, all-purpose boat . . . as much at home on the St. Lawrence, Long Island Sound or the open coast as it is on an inland lake. It has the added cruising radius, the seaworthiness, the roominess and the comfort that suit it to any need in any water.

It rides like a racer and drives like a racer. It is amazingly sensitive to a touch of the steering wheel . . . quick on the turns and a flash in getaway and acceleration.

Prices . . . $995 for the Standard and $1395 for the De Luxe model . . . are made possible only by Chris-Craft's great resources, exceptional facilities, and quantity production methods . . . backed by 44 years' experience in fine boat building.

Compare the dimensions of these new Chris-Craft with those of other boats of 20 feet or under. Here is solid comfort for six, on deeply upholstered cushions of gay red Russeloid . . . a pleasing contrast to the rich mahogany of deck and hull.

Check power plants and compare equipment. Note that the 18-footers have the V-type hull of genuine Philippine hardwood, exclusive Chris-Craft screw-fastened construction, and the double-planked bottom which provides surplus strength and assures permanent dryness. This construction, common to all Chris-Craft, is the strongest known . . . two layers of hardwood with heavy canvas marine-glued between.

But after all, the final test is to drive them yourself. Get behind the wheel today. Your nearest Chris-Craft dealer will gladly demonstrate, and explain how you can buy any Chris-Craft out of income.

DE LUXE MODEL

With 85 H. P. motor—and speeds up to 36 M. P. H.

$1395

Completely Equipped

Dimensions same as those of standard model.

Additional equipment on the De Luxe model includes non-shatterable, full vision windshield; De Luxe instrument panel with tachometer, oil gauge and ammeter; indirect dash lighting system; special streamlined, chromium plated deck hardware; step pads with heavy chromium plated frames; finest Russeloid removable upholstery with full padded Russeloid around cockpit; safety filler gasoline tank (30 gal.); fender cleats and four bumpers; anchor and rope.

Chris-Craft runabouts are priced from $795 to $6500; cruisers and commuters from $3975 to $15,000; custom yacht at $35,000.

Some desirable Chris-Craft sales territories are available

Craft

CRUISERS—YACHTS TENDERS

Chris-Craft Corporation, Algonac, Michigan.

Please send me, without obligation, illustrated folder checked below:

☐ New Chris-Craft 15½-ft. runabout at $795.

☐ Chris-Craft 18-ft. Standard runabout at $995 and De Luxe model at $1395.

Name_____

Street Address_____

City_____ State_____

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NEW YORK DIRECT FACTORY BRANCH—1 WEST 52ND ST., AT 5TH AVENUE

Come Up From Below...

You Galley Slaves!

HERE'S GOOD NEWS for the chaps who do the cooking on board — a new STERNO STOVE that gets your cooking done quickly and brings you fellows up from below . . . into the open air! Quick, safe, practical, convenient — that's the new Sterno, the handiest stove afloat.

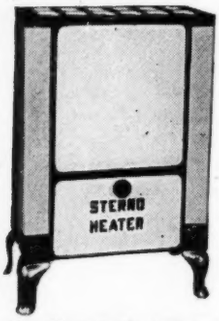
The new Sterno is the completely sensible galley stove. Compact enough to set up in a runabout, yet big enough to serve a real cruiser with efficiency. Intense adjustable flames under the double burners do a thorough, quick job.

SAFEST, the handiest stove afloat. Standard equipment on cruisers.

SAFE — No liquid fuel to spill — no gas to leak — can't explode.

PRACTICAL — No muss or fuss . . . no priming. Intense "cooking" flame — or low "warming" flame, at a touch. No "gadgets." Two burners — rail to keep pots and pans from getting adrift.

CONVENIENT — Light enough to pick up and set on deck in hot weather — small enough to take ashore in the dinghy for picnics. Easy to clean. Weighs 16 lbs. — measures 20½ x 11½ x 10 inches. Costs only $12.50 . . . the lowest-priced two-burner stove on the market. Burns safe, economical STERNO Canned Heat. (Available everywhere.)



Small enough to stow away handily when not in use
11" x 6" x 15½"

New STERNO Cabin Heater meets a real need . . . .

The thing for early spring, late fall, chilly mornings and evenings. Light, compact, *absolutely safe*, new Sterno Heater warms up the average cabin in a few minutes. Why monkey around with messy fuel — here's a heater that works better, faster, more safely . . . and costs only $5.00. Sold through your marine dealer. If he cannot supply you, order from us, using coupon.

STERNO CORPORATION, 9 East 37th Street, New York City (Y.7)
Send me ☐ Sterno Marine Stove at $12.50
☐ Sterno Cabin Heater at $5.00 (green or white, specify color)
I enclose $..... which I understand will be promptly refunded upon return of items if I'm not completely satisfied.
or ☐ Send me complete description and specifications.

Name.....

Address.....

.....

Dealer's Name.....

A Sea Scout Looks at Life

(Continued from page 56)

July 31, 1930

We have been having one swell time, and I have changed billets and am now Machinist's Mate on port watch. So I will go a little better than wiping and watching oil, and will take my turn at all the controls. I will start and stop the Diesel, and the auxiliary, and when the bridge signals will give them whatever they telegraph and then telgraph it right back. Boy, I sure hope that I will be able to throw the old reverse; it is some heavy, but have been practicing up for it. This changing of billets is great, and I think next change will make me a Signalman, maybe.

Well, we have had a swell three days, Mr. Stone. Yesterday we all got in a bus and went to Montreal, and spent part of the morning in the Chateau Ramezay where they have the best collection I have seen yet, and I would recommend it to all yachtsmen who are in this country. Then we went out to St. Joseph's shrine where they have the praying steps, and we stayed there about an hour and came back to town for supper. Everybody we saw was swell. The waiter we had was, too. He said we could have beer, but nobody wanted to; I guess this prohibition is not so much to bother about after all, Mr. Stone. But it was kind of funny how many people from down in the States seem to be around this town.

We are now back at St. John ready to get underway, as we turned out a whole hour later than regular this A.M. It was with real sorrow that I took the telegraph and shoved the big lever home for slow ahead and reached for the signal back.

We came in to Rouses again, and a snappy customs officer came down and cleared us in a few minutes. We settled down here for a good night's rest, and every man was asleep when "pipe down" came at two bells, and they all slept about ten hours except for the poor guys who were on as O.D's.

Stand to came at the regular six o'clock, and as four bells were made everybody rushed for the deck, and we shoved off for a fast run. And the best ride so far for me was this morning. I was stretched along the ditty box in the sun, and listened as some of the starboard watch were passing their Able tests with Skipper Pillsbury and Skipper Reese. I am nearly through my own Ordinary tests, Mr. Stone, and soon I will be able to start from Ordinary to Able. And then, who knows, I might get to be a Quartermaster even.

\+ + +

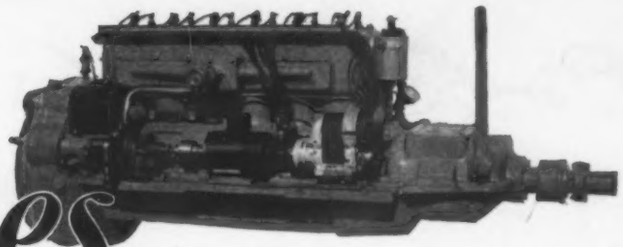
[Note to Mr. Stone: Ridgeway is sleeping and we are mailing this letter unfinished, as he will be on watch tonight and we hate to snap him out of it. Our apologies. Powell, *Captain*.]

Hudson River
August 1, 1930

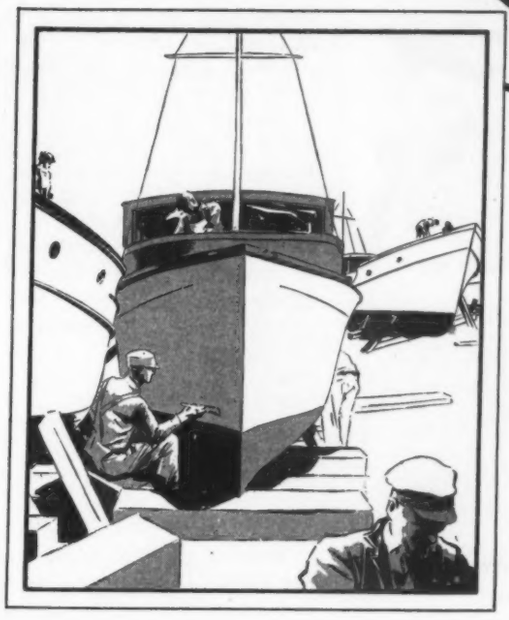
Dear Mr. Stone:

They slipped your letter right out of my hand that last time and mailed it, so I could not sign myself Machinist's Mate, but this is a swell gang and I am not mad any more.

Everything has been pretty smooth and we have come clear through all the locks again, with a little excitement when we thought we had lost the cat. She went overside when she tried to walk a stanchion cable, but she caught a rope fender hanging overside, as we were in a lock, and climbed back again. She has her Able bars now by vote of our crew.



Engines for Sailor Men



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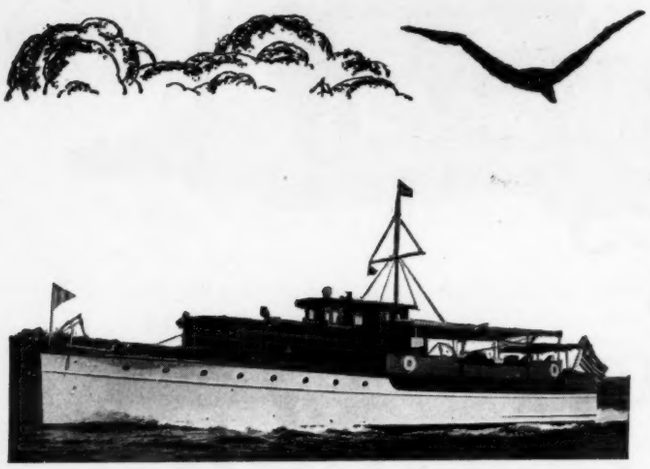

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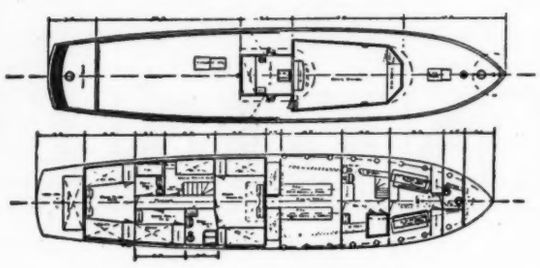

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Phone: SEdgwick 3-4880

Well, we had some mail at Albany, and mother said where was my letters and I guess I will have to tell her they were all in these letters for you, Mr. Stone, and I guess you will have to print them now, so she will get hers.

The river was plumb full of big logs and boxes, and believe me, I found it out, Mr. Stone, because we have shifted billets again and I am now Signalman, Jr., with a regular bridge watch and I have to stand to with all flags ready and watch from the wing for obstructions; and I am studying buoys and I have learned a lot. Had a half-hour at the wheel, too, and I am learning to give her wheel slow enough so she will not swing. And I had a full port and then a full starboard as we slid in behind a nun buoy out of the channel for the night. And just astern was the *Memory III* and there was one sweet craft; I wish I could have gone aboard. She was all shipshape with two tender booms out, and as our anchor let go our port and starboard boats slid down, too, so I guess we made a salty pair of yachts at that.

I had a wonderful watch, just seeing the old boats ooze up and down the river, with their mile-long feelers of light that slide across the water when you don't expect it. And I would recommend a trip up the Hudson for you some time, Mr. Stone, for this is a great place to see things and imagine things about all the strange boats that slide by you in the dog watch. But my watch is up and I will turn to, after saying good night to you and wishing the old cruise could just be starting again with us.

Scoutingly yours,

MOON
Junior Signalman

Delaware River
August 6, 1930

Dear Mr. Editor:

Maybe you will think I am fresh for we were all talking about these letters to you and Jenkins says maybe you have been on the Hudson yourself, and if you have, Mr. Stone, why I guess my advice to you will be wasted, but you will know it was good, anyway, and so maybe Jenkins will shut up now.

We anchored at Newburgh, N. Y., on Sunday, and took for ourselves a good rest after looking over the *Constitution* which is the Newburgh Sea Scout ship. They were coming in under power with a two-masted whaleboat, and it looks like a salty outfit.

Monday morning went with the Oakite and soap and paint, and again every inch of the *Ballantrae* glittered, and the holystones are all worn down plenty more. And it was a great sight with every small boat shining clean, and all of Monday afternoon the West Point photographer took pictures of us, and it was just like Hollywod, with everything but lipsticks.

All next day we made knots down the river bound for home, and we were all glad to have a good look at the new Hudson Bridge and all the Roebling wire that it has, and we saw plenty of big liners in their piers as we got lower down, till finally we were below what they call the Battery and out in the bay. And just then I went to the bridge for a wheel trick, and the Exec. had me steering by bell buoys and later, by compass.

Well, from the lower bay you may know the trip, Mr. Stone, for you have probably been in New York Harbor; you go on past the place where the Ambrose Channel comes from the east and turn southwest and west into Raritan Bay, and then you come to Perth Amboy and then up the crooked old river to the Delaware and Raritan Canal. And we went on through the

15 LEADING BOAT BUILDERS USE EXIDES AS STANDARD EQUIPMENT

Richardson Cruisabout. One of 23 to leave N. Tonawanda, N. Y., on recent sailaway cruise. All Exide-equipped.

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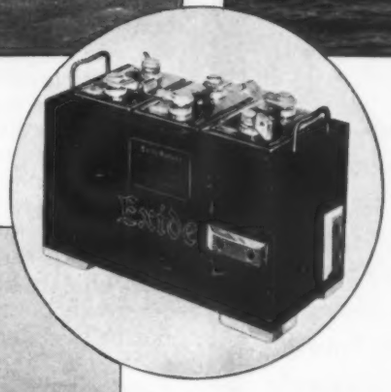

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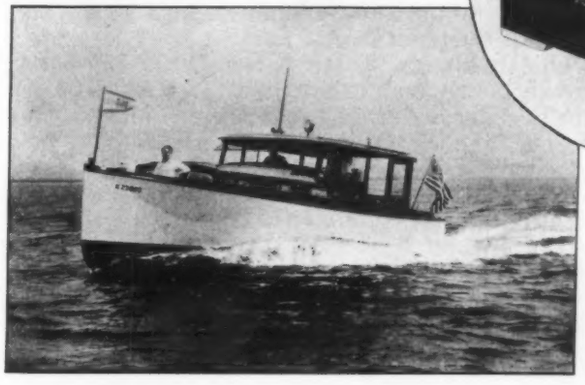

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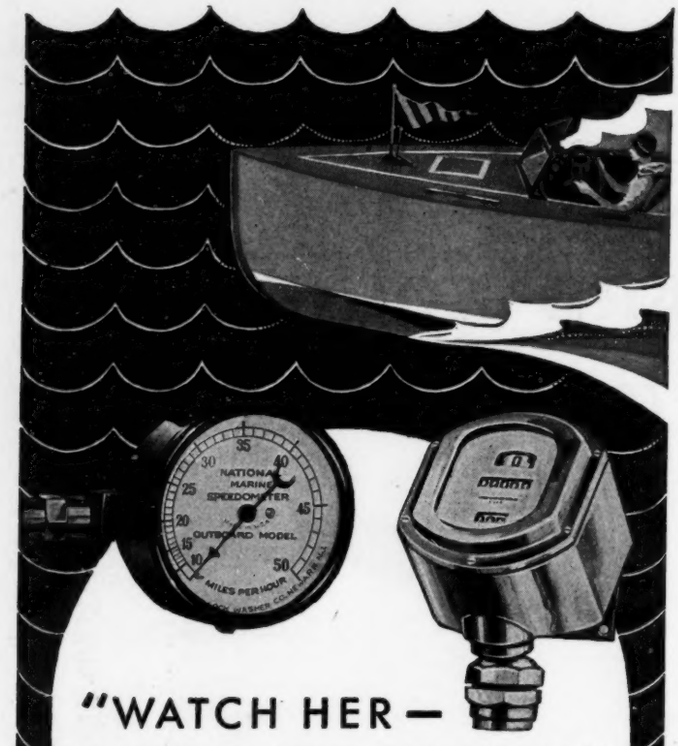

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old ditch again and everything was smooth sailing, with a one night tie-up again, and some swell Sea Scout chanteys which we all sang that night. The next day found us coasting along again till we stopped at the Princeton Road where some of our crew got off. And then to State St. in Trenton where we took on fuel, while more crew got off, and then down to the Delaware River and up to our own home berth at the Trenton Yacht Club. And I was the last man to get off; and next year I will be the first man to get aboard, I bet. And say, Mr. Stone, I just heard that you are a Sea Scout, too, and so we will both know what it is all about when I say goodbye to you; and may we both look for more salty voyages through our whole futures.

Your friend in literature,

SEA SCOUT MOON RIDGEWAY

Standing Rigging on Small Yachts

(Continued from page 68)

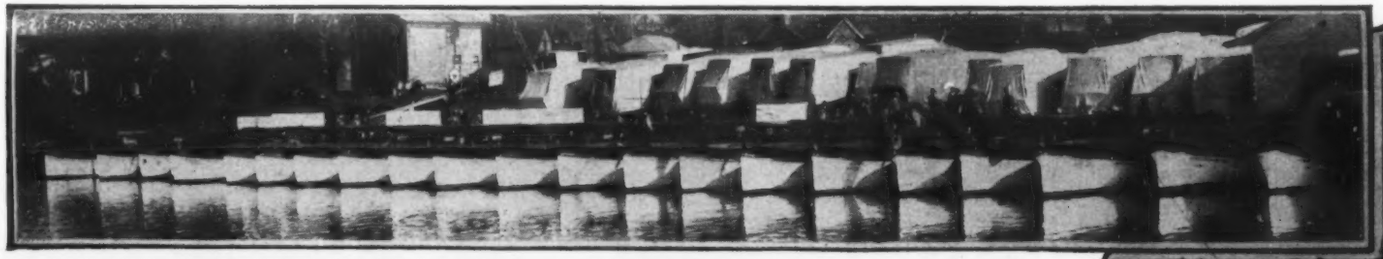
The modern yacht is so narrow that the stress on her shrouds is severe, being much higher than in a wider craft. To meet the demands of the aeroplane industry, the wire rope manufacturers are now producing wire rope with great strength in small sizes. Some of them are also making non-rusting steel wire rope that has long life. Rigging like this adds to the neatness of a yacht's appearance and is not as noticeable as the old-time, clumsy looking iron wire rope.

So lightly built are many modern yachts that it is not safe to secure the shrouds merely to a chain plate fastened to the outer face of a frame, or to the outside of the hull planking; the stress must be transferred to a secure anchorage under the heel of the mast. The deck beams then become struts for a truss and must be stout enough to take the end crushing stress. In many boats the chain plate, instead of being fitted on the outside of the frame, is placed inside of the frame, going in a straight line to its bed under the heel of the mast (as in Fig. 14). In any boat the mast cannot be properly stayed if the turnbuckles at the rail have to contend with any give or slackening in the structure below. I have seen boats in which the pull of the shrouds has lifted the sheer line into a perceptible hump at that point.

Too many amateurs, not knowing what else to do, keep continually screwing up their shroud turnbuckles, pulling the wire ropes as taut as fiddle strings. Then they wonder why their masts carry away in a hard squall when the middle buckles and snaps out. A turnbuckle is not a screw jack but a convenient adjunct to setting up rigging to a fair degree of tautness. Standing rigging should not be like fiddle strings when the yacht is at anchor.

The most abused piece of standing rigging on a modern yacht is the headstay or the jibstay, whereas in an old-timer with a bowsprit the bobstay took all the grief. This is not surprising when you consider the amount of purchase in the main sheet and the length of the lever from the mast to the main sheet blocks. Is it any wonder that the headstays stretch when "all hands and the cook" put their beef on the main sheet?

Today, we have wire sheets and ratchet deck winches on the main sheet and, as if that were not abuse enough, the poor jib halliards and headstay have to take the pull of the winch-tautened runners and backstays. They seldom carry away, for wire rope stands a powerful lot



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(*Top*) 22 Cruisabouts waiting for the start of the world's largest cruise.

(*Top right*) Going down! Sometimes as much as 45 feet! The Cruisabouts went into a hudule 35 times on the New York State Barge Canal.

(*Middle right*) A mile and a half of boats. The procession was too long to be "snapped" complete with a camera.

(*Left bottom*) Cruisabouts at New York. Each Cruisabouter has become expert enough to handle his boat in the wash of those along side.

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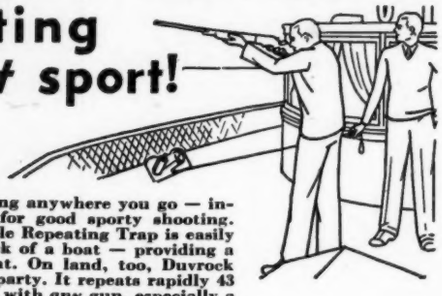

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of abuse, but how they do stretch! I have seen a sloop come in after a hard day's race with her main boom, that normally cleared the companion slide by six inches or more, fouling it every time she came about. "The sail stretched," someone said. I've even seen sails sent to the sailmaker to be recut when all that was needed was to set up the headstay and pull the masthead forward where it belonged.

When you fit out your yacht it's a good thing to hoist a plumb line to the masthead and make a mark on deck where the point of the plumb-bob comes. I used to gouge out a groove in the floor somewhere, generally where I could see it as I sat at the helm, and set in the glass from a spirit level. I set it so that the bubble would be in the center when the yacht was trimmed fore and aft to her designed water line. If you mark the plumb-bob position when the bubble of the level is centered, the next time you try it you can get her to her lines and then see whether the masthead is where it was originally. You will be surprised to see what a difference in a boat's sailing and steering may be made when a little stretch in the standing rigging lets the masthead shift a few inches one way or the other. The modern racing yacht is like a toe dancer, balanced on a small point (a short, deep keel, all in a bunch amidships) and it takes little to throw her off her balance. Appreciating this, several of our small racers (Stars, 6-meters, and others) have all their headstays led over sheaves in the deck, and then aft to threaded rods fitted with cranks, so that the stays may be set up or slacked by turning these screws. Some even have a metal mast step with a screw that can shift the heel of the mast forward or aft.

Standing rigging is like medicine and the spars are the patients, some having one ailment, some another. One stick may be stiff and rigid and need but little staying, while another may bend like a whip. One may have straight grain; another may have the grain winding around it like a corkscrew. The staying of a mast, like a dose of medicine, must depend on the condition of the patient — there is no one patent medicine which will cure any and all diseases.

The Sears Bowl Under New Management

(*Continued from page 58*)

The season at Marblehead is fairly short and very intense. To ask the owners to give up their craft for a whole week twice during July and August was, to say the least, something of an imposition. Often it meant foregoing mid-week races. Again, although the club insured the boats, there was generally at least one careless crew. Fortunately, serious damage was incurred but once; however, the most careful treatment is apt to affect the delicate trim of a sensitive racing craft, not to mention the damage possible to a set of sails by inexperienced handling. Desiring the fairest test, the club naturally wished the best boats, but often their owners, after one experience, were unwilling to lend them, and it has become increasingly difficult to obtain suitable boats. The task of reconciling this problem with the aim of the series was fast becoming impossible, and this was the main reason for shifting the burden to other shoulders.

Another angle of the boat problem is that of a suitable type for the racing. Excluding those used in the various eliminations, the Eastern Yacht Club has experimented with four types, and discarded three. The centerboard craft were abandoned as being unfamilar to the majority of crews; too small, wet, and lacking in adaptability to anything but short courses, which did not provide the

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Six and one-half days on the water! Stopping nights at Rochester, Weedsport, Rome, Fonda, Albany and Nyack. Passing through 35 locks of the State barge canal. Buffeting a storm on Lake Oneida. Skimming through the choppy waters of the Hudson. Reaching New York without mishap . . . the long cruise over!

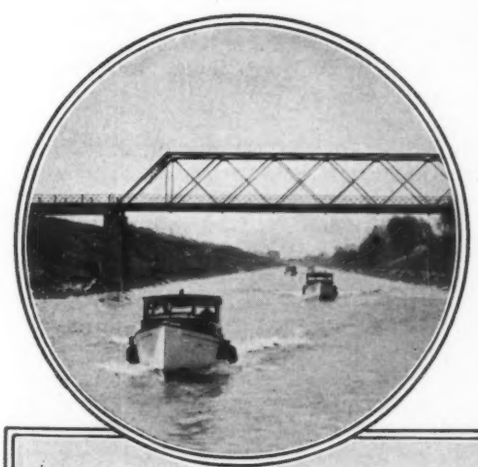
(ABOVE) *A real lock-full! $100,000 worth of boats. (Socony fueling boat in foreground)*

(BELOW) *Passing through the locks at Lockport*

Socony Banner Gasoline—used exclusively in all the boats—brought them through without a skip or a miss! A special Socony fueling boat, loading up direct from a Socony tank wagon at points along the route, accompanied the fleet.

Try Socony Banner in your boat—on your next short or long cruise. You'll find it's most satisfactory!

STANDARD OIL COMPANY
OF NEW YORK



(AT LEFT) *Cutting swaths in canal waters*

(BELOW) *Speckled dots on the mighty Hudson*

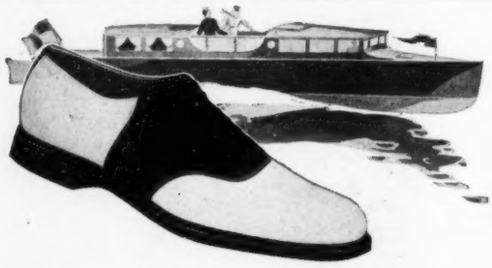
(ABOVE) *Close-up of one of the 23 Cruise-Abouts*

Steer Straight for Apollinaris

The Finest Sparkling Table Water

Bottled Only with its Own Natural Gas. Retains its Sparkling Effervescence *longer.*

Sole Importers: Apollinaris Agency Co., Fifth Avenue at 42nd Street, New York



AT LAST

Amphibious Footwear . . .

The SPALDING-DAREX YACHTING SHOE

Months ago a man who knows shoes, seas and ships started out to learn just what yachtsmen wanted in footwear. He solicited suggestions and ideas from commodores, first mates, Bermuda skippers and salty transatlantic captains.

On the basis of his report we selected a white chrome elk leather and added a smooth black saddle for smart appearance. And we left out nails entirely. There's nothing to rust, bruise bare feet or mar smooth decks. This shoe retains its shape and appearance even after a good dousing.

Finally, we selected the new Darex Insulating Soles — already tested by yachtsmen and pronounced ideal. They're smooth, yet slip-proof, firm but flexible, durable and waterproof. Their wedge heels have no corners to catch or trip you.

Consider our nearest shop your home port as far as footwear is concerned. Or, if you prefer, send your order direct. *The Skipper.* Price $8.00 per pair.

A. G. Spalding & Bros.

NEW YORK • CHICAGO • DETROIT • SAN FRANCISCO

WRIGHT AND DITSON . . *Boston*

necessary tests. The Herreshoff "S" was a great improvement, providing a fast, able, seaworthy, and well-balanced racing craft, but in one respect not quite satisfactory. This was no fault of the boat, however. The boys and girls competing varied greatly in size and strength, and the large sail plan of these boats handicapped light crews in trimming sails in strong breezes. As this placed a premium on husky crews, which was not felt desirable, the M-B Class was substituted. The popular Triangles, used once in the North Shore trials, showed the same difficulty. The M-B's proved a very satisfactory solution, for they are of fair size, able, fast, and modern in every way, with their sails trimmed by winches, as on larger boats. These craft, and the old Manchester 17-footers, have been used the last two seasons in all Massachusetts trials and in the finals.

The boat problem in all its phases is the most serious which the new organization must face. The ideal solution, and the one I believe must finally be adopted, is for the interested clubs and associations to build six or eight boats for exclusive use in the trials and finals. It is an expensive proposition, but it would insure the fairest conditions. For the present, boats of the right type must be borrowed. Unfortunately, the Stars are too small for a crew of three to sail comfortably, but anything between these and a Herreshoff "S" knockabout will do. The ideal craft should be built on modern lines, about 18 feet on the water, with roomy cockpit and moderate sail plan.

There have been several changes in the method of sailing the series since 1921. Originally, it was run off in three boat matches, winners on points advancing. The glaring weakness of this arrangement is obvious — the poorest crew often won by splitting tacks. This was superseded by the plan of match racing. While it was an improvement, this method also had a weakness, the winner of the best two out of three races often being decided on the draw for boats. Boats, not crews, won, for the man who can make identical craft that are of equal speed is yet to be discovered.

Partially to correct this fault, a third system was tried in the 1929 series. It was an adaptation to yachting of the method used in the National Open Golf Tournament. For example, with six crews entered, six fleet races on points are sailed, crews sailing each boat once. At the end of the series, the two crews scoring the most points sail a series of match races for the championship.

This plan seems to have a number of advantages. To a large extent it eliminates luck and generally brings the two best crews through to the finals. It gives the crews an opportunity of displaying their skill in the most familiar type of racing, but yet retains the requirement of match racing. Failure to master these requirements cost Pequot the 1930 title. Again, the crews must obtain the utmost speed from every boat to win. This plan is generally in use now, but due to the acknowledged inequality of boats, its purpose is defeated when each crew brings, and sails in, one boat throughout the series, as was done in the Sound championships last summer.

Former Commodore Sears and the Eastern Yacht Club have rendered the sport a great service in initiating the Junior Championships. The North American Yacht Racing Union can carry this even farther. With its national organization, but little persuasion will be needed to bring the Pacific Coast and Great Lakes into line. The latter district has made inquiries in the past.

It is significant of the value of this series, and worthy of mention, that in its first ten years of existence the Sears Cup has already produced two champions of international caliber — Raymond Hunt and Arthur Knapp — not to mention several others of high reputation in their localities.

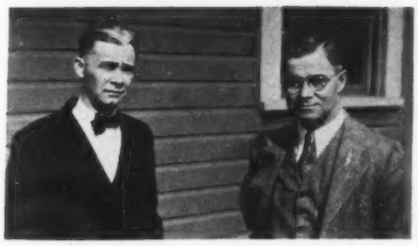
The Marblehead Owners' Driveaway Cruises

(*Continued from page 89*)

across Ipswich Bay to Thatchers Island twin lights at the tip of Cape Ann, past Norman's Woe, and into snug Gloucester Harbor, where the boats lay the first night. Then across wide-open Massachusetts Bay — Minot's Ledge looming to starboard — down past historic Plymouth to the Cape Cod Canal, and over to New Bedford.

On both cruises a stiff southwester made the newest owners open their eyes at the fine sea qualities of the fleet of Marbleheads; the boats smashed into sea after sea, sending showers of spray sky-high and showing what real boats can do. Aboard the convoy boats were skilled pilots and able mechanics provided by Staples, Johnson & Co., but they were along only for the factor of safety and for ease of mind; all the boats and all the engines ran along smoothly.

The last lap took the fleet down Buzzards Bay, across Block Island Sound, along past Watch Hill and Fishers Island — gorgeous blue skies and a long ocean roll — through



The two men responsible for the success of the recent cruise of Richardson Cruisabouts. J. E. Gillespie (left), sales manager, and G. R. Richardson, president of the Richardson Boat Co.

the Race, and into Long Island Sound. Here the fleet separated, some continuing along the Sound and others running through Plum Gut over to Greenport and the Peconic Canal and so into Great South Bay and on to Babylon, Amityville and Freeport, to complete a perfect cruise.

New ACO Sea Boats

The development of high speed runabouts has created a demand for similar craft, of modest dimensions and with accommodations for day and night cruising. The new ACO speed cruisers are 20 and 26 feet in length, with sleeping quarters for two and four persons in berths 6′ 3″ long, and with cleverly concealed toilets. They retain the open steering cockpit forward so much appreciated in runabouts.

To reconcile the advantages of open boats and the comforts of cruisers, without great sacrifice in speed, or loss of smart appearance has called for ingenuity. ACO designers have cleverly planned the new speed cruisers to please the eye and to provide new comforts at sea.

The forward cockpit, seating four persons, while open to the sky, is shielded by the windshield and the overhang of the cabin roof, a snug retreat where the charms of an open runabout may be enjoyed. Directly behind is the cabin with large glass sashes, and lengthwise berths. Half-doors lead to the after deck and the motor well and fuel storage. Both the 20- and 26-foot ACO speed cruisers are capable of 28 miles per hour or better.

The full round bilge form of ACO Sea Boats makes possible this dual purpose speed craft, a new and satisfactory type meeting requirements for afternoon sailing, commuting service, and living quarters afloat.

Popular Faces are *shaved with* Barbasol

***"I'm a real fan when it comes time to take off whiskers in the morning. Barbasol does it so easy. So quick. So smooth. And it leaves my face feeling so fine that I find I can shave* twice a day with Barbasol — *and like it."* — BEN LYON**

**Barbasol testimonials are not paid for*

Ben Lyon, that very likable fellow, who stars with Constance Bennett in "Bought" and with Barbara Stanwyck in "Night Nurse," Warner Bros. and Vitaphone pictures.

WHY punish your face and throat with shaving methods invented two thousand years ago?

Here's Barbasol. The modern shave. The shave that takes the curse from tender skin.

Don't expect Barbasol to bubble up with lather. It wasn't made to wash away dirt. It was created *solely* to soften hair, to hold it straight and firm while your razor sings through every whisker with a gliding ease that's proof against pull or scrape.

If you have never known the sheer delight of a Barbasol shave, get acquainted next time your whiskers need a trimming. No messing around with soap or brush. No latherous foam to rub in your tender face. It's so easy. So quick. *So smooth.*

It has, in fact, built the largest following a cream has ever known, for the very vital reason it can't hurt your face — no matter how tough your beard. No matter how tender your skin. No matter how often you shave!

Now use Barbasol* right. *Follow these directions and you'll follow the crowd

1. Wet your face and leave it wet . . . **2.** Spread on Barbasol. Don't rub it in — just be sure it's spread on *evenly* between the hairs . . . **3.** Wet a good blade and — SHAVE.

That's all you have to do to get the finest shave in the world. It's simple, easy, quick. Try it today. Generous tubes at all druggists', 35c and 65c, will quickly make YOU a Barbasol Believer, too.

FREE A refillable Tefra Toothbrush, value 75c, with your first name or initial on handle. Finest quality. Mail entire empty Barbasol carton (35c or 65c size, or jar) with your name and address. We will mail toothbrush absolutely free. The Barbasol Company, Department 39, Indianapolis, Ind.

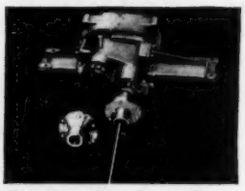
***Listen to Barbasol Ben and His Boys* — Laughs — and the songs you can't forget — the happiest entertainment on the air. Tune IN, every Monday, Wednesday and Friday evening at 8:15, Eastern Daylight Saving Time, Columbia Network: Stations**

WABC, WMAQ, WCAU, WXYZ, KMOX, WHK, WJAS, WNAC, WCAO, WKBW, WISN, KMBC, WCCO, WKRC, WFBM, WMAL, WEAN, WSPD, KOIL, WADC, WFBL, WDRC, WOKO.

ACHIEVEMENT *that Testifies to the Goodness of*

GRAY

Consider these facts when choosing power—



The Gray Vee Drive Gear, pioneered and designed by Gray. Built in two sizes and five gear ratios for every type of boat

Gray today makes a motor for every boat (from 5 to 200 h.p.). Three Eights, 9 Sixes, 9 Fours, including the Phantom Racing Eight, the High Torque Sixes and the Gray Light Four. Motors used by 33 leading boat builders in 66 different boats. No other line of motors has received such a vote of confidence.

Gray pioneered with the Vee-Drive Gear. Today, after two years, with hundreds in service, not a single one has broken up, proven defective or has failed to operate in service month after month, just as it did the day it was delivered.

Gray pioneered in the successful use of Built-in Reduction Gears on the High-Speed, light-weight type of engine for economical use in the heavier boat.

Gray pioneered the low-priced, heavy-duty, large-displacement marine motor, bringing to this field all the tremendous resources of mass production facilities and economies.

Recent High Points in Gray Performance

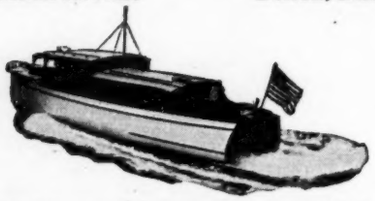
Last year the Gray Eight established the fastest speeds in official competition in the International 5½ Litre Race in Lutcher Brown's "Phantom." This year, Miss M. B. Carstairs, Mr. H. Scott-Paine, H. Lutcher Brown and C. S. Moulthrop have purchased the Gray Eight for racing.

In the Albany-New York Race in May, Mr. Ross Maddocks, driving a Gray Six-50, in a Ludington 17-foot runabout, finished second, only 9 minutes behind the winner, in spite of the fact that he spent 20 minutes in rescuing a fellow racer from a wrecked boat. (Gray won the race in 1930.)

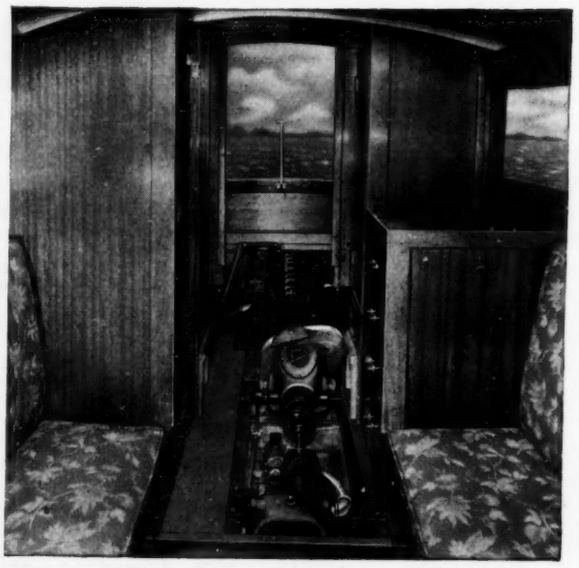
In May, the Greyhound, owned by Fred Smith (built by Higgins Industries) and powered with a Gray High-Speed Eight and Gray Vee Drive Gear, made the run from New Orleans to St. Louis in 74 hours, breaking the previous record by 13 hours and 31 minutes.

In choosing a motor, weigh carefully the achievements of Gray and the value Gray gives for your dollar.

GRAY MARINE MOTOR CO.
656 Canton Avenue Detroit, Michigan



The Lorelei, owned by W. C. Spargo, New York, and built by S. Clyde Kyle, General Motors Bldg., New York City. A 38 footer, equipped with Gray Eight and Gray Vee Drive Gear. Speed 20 M. P. H.



Showing installation of Gray Eight and Gray Vee Drive Gear in the 38-foot Lorelei, owned by W. C. Spargo and built by S. Clyde Kyle. Note compactness of unit and that practically every foot of boat is arranged for passenger use

An Early Spring Cruise

(*Continued from page 70*)

manner. We were now on the upper Hudson, and after passing through the federal lock at Troy, the squadron floated at last on tide water. Twelve miles farther south we pulled into the basin of the Albany Yacht Club in a driving rain, having made the 350 miles of canal in five days, running only during the daytime.

The next day we turned out at 6:00 A.M., in the rain, and made a long run of 115 miles down the Hudson, without a stop, to Nyack. It should have been the finest part of the cruise, but the clouds hung low over the Catskills, shutting them out from view, and but little was seen through battened down side curtains until after West Point and the highlands had been passed.

It was at Nyack that the formal part of the cruise ended, though the boats proceeded in company the next morning down the Hudson as far as Spuyten Dyvil, where they began to scatter and laid courses for their home ports — some down the Jersey coast as far as Ocean City, some east to Sag Harbor and the Hamptons, and some outside to Great South Bay. It had been a most successful event, carefully conceived and ably executed by Mr. J. E. Gillespie, of the Richardson Boat Company, to whom must go much of the credit for the smoothness with which the entire run of 491 miles was made. No admiral in the navy ever watched the vessels under his command more carefully than "Jim" watched his cruisabouts. There was no hitch anywhere. There were no accidents or breakdowns of any but a minor nature, barring a bent propeller blade which the *Ace* acquired when she ran out of the channel on the last day in the canal. Almost without exception the boats were in better shape at the end of the run than at the start. And, crowning achievement, the crews had wrung enough water out of their socks and mittens during the six days of rain to make them qualify as "Able."

The Probable Course of the Transatlantic Racers

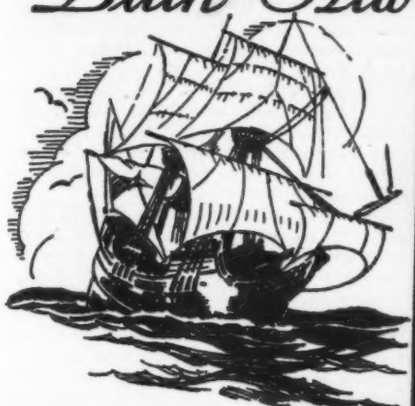
(*Continued from page 43*)

considerable loss of current in proportion to the distance sailed north of forty. To start running the easting down several miles south of forty would insure a boat's being fairly within the border of the Stream, which lies about seventy miles south of Nantucket Shoals. Once the navigator determines his boat is in the current, then the course can be shaped gradually above forty, but not much above it until the fiftieth meridian is reached. Then it is time to swing into a great circle course for Bishops Rock. Continuing any farther along forty would run a boat into danger of the Azores calms and, besides, there is the northing to be made.

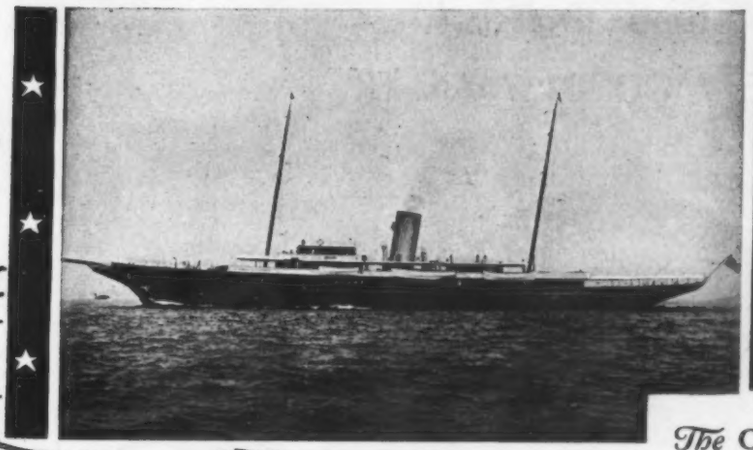
As a boat sails north she is likely to find stronger winds. In fact, it might pay to sail a little north of the great circle course in hope of better wind and to be farther from the influence of the Bay of Biscay easterlies on approaching the European coast. This course has been laid down on the accompanying chart and it is my guess at the most favorable track that can be made. After all, it is nearly the same as the steamer lane which has been chosen after many years of doping out the path of least resistance. The only difference is that we have gone a little south of the steamers at the start in order to get the Stream sooner, and then a little north at the eastern end to seek better winds.

When the gun is fired for the start off Brentons Reef Lightship, I think the fleet will head southeast for Nantucket and the fortieth parallel.

"Bath Always Builds Good Ships"



The VIRGINIA
Pinnace of 30 tons burden



The CORSAIR

L. O. A.	*343 ft. 6 in.*
Beam	*42 ft. 8 in.*
Depth	*27 ft. 0 in.*
Draft	*18 ft. 6 in.*
Shaft H.P.	*6000*
Speed	*18.15 K*
Steam Turbo Electric	

The CORSAIR in Dry Dock

The FIRST and the BEST

in 1607 the "Virginia," first American-built vessel, was launched near the mouth of the Kennebec. Rough and crude according to modern standards, still for the times and for the means at hand, a worthy ship, making as her first voyage, one across the Atlantic to the mother country, England. Generations have passed but the work of building good ships continues.

in 1930 the yacht "Corsair," an equally significant ship, left the ways. Equipped with every device modern shipbuilding and engineering skill could conceive, but more important still, a sound, worthy vessel, she was constructed and launched for a most discriminating yachtsman. Bath notes with gratification that many marine authorities call her one of the ***best*** American-built vessels, worthy successor to the traditions of the "Virginia."

in 1931 in '32 and '33, and throughout the years, Bath will build good ships, endowed with the spirit of the Kennebec — water travel, the best of its time . . . something greater than materials . . . workers' pride in craftsmanship . . . careful adoption of worthy new inventions and improvements in the art of shipbuilding . . . soundness and dependability.

Whether Bath builds trawlers, tugs, Naval vessels, passenger ships or luxurious yachts, they will always measure up, within their class, to the standard of the "Virginia" and the "Corsair." They will be worthy of the spirit of the Kennebec.

Some Outstanding Bath-Built Boats

Corsair	*Turbo Electric*
Aras	*Diesel Yacht*
Hi-Esmaro	*Diesel Yacht*
Vanda	*Diesel Yacht*
Black Douglas	*Aux. Sch. Yacht*
Placida	*Diesel Yacht*
Paragon	*Diesel Yacht*
Trudione	*Diesel Yacht*
Sylvia	*Diesel Yacht*
Winchester	*Steam Yacht*
Virginia	*Steam Yacht*
Aphrodite	*Steam Yacht*
Pantooset	*Steam Yacht*
Bidou	*Diesel Yacht*
Gielow	*Diesel Yacht*
Althea	*Diesel Yacht*
U. S. S. Wadsworth	*T.B. Destr.*
U. S. S. Pruitt	*T.B. Destr.*

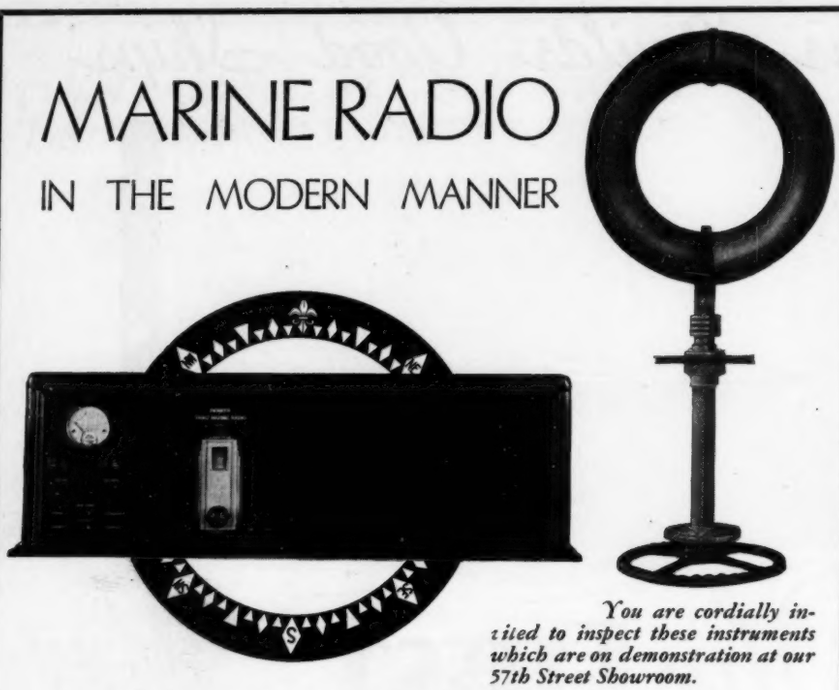
Now Building

Caroline	*Diesel Yacht*
Halonia	*Diesel Yacht*
Helene	*Diesel Yacht*
Zampa	*Diesel Yacht*
Sea Pine	*Diesel Yacht*
Illinois	*Diesel Trawler*
Maine	*Diesel Trawler*
Hulls No. 147–153 incl.	*U.S.C.G.*

BATH IRON WORKS CORPORATION
SHIPBUILDERS AND ENGINEERS
Bath, Maine
U. S. A.

MARINE RADIO

IN THE MODERN MANNER



You are cordially invited to inspect these instruments which are on demonstration at our 57th Street Showroom.

PIONEER TRIAD MARINE RADIO

combining the advantages of a radio compass and direction finder with an efficient broadcast receiver. With this instrument bearings are readily obtained from the government radio beacons or broadcast stations. Wavelength range approximately 200 to 1250 meters, covering all broadcast stations, time signals, weather reports and distress signals. A loud speaker is provided, affording excellent tone quality on music and speech.

Price and descriptive literature on request

REL SHORT-WAVE MARINE RADIO

The Radio Engineering Laboratories, Inc. have developed this receiver after much careful experimental work. Its outstanding features are: Low cost, one dial control, broadcast waves as well as short waves (time signals and weather reports on short waves), tuned radio frequency, screen-grid detector, two stage audio amplifier. With a good antenna European broadcast stations may be heard very consistently. Employs but four tubes and is very compact. Each individual part is either sealed in an insulating compound or coated with insulating lacquer; thus these sets can be effectively employed in tropical climates and locations where atmospheric conditions tend to deteriorate apparatus.

Price, less speaker and accessories, $85 (including coils for 16 to 87 meters)
Broadcast coils, $12 (covering 200 to 550 meters)

Resistors are available to obtain filament supply from 32 or 110 volt DC systems

R E L PORTABLE SHORT-WAVE RADIOPHONE SETS

Combined receiver and transmitter in carrying case now available for reliable telephone or telegraph transmission over short distances. Particularly adapted for Marine, Field or Aircraft use. On display at our showroom. Literature on request.

COMPLETE RADIO SERVICE

We are fully equipped to install, service or repair any type of radio equipment or sound devices, public address or remote control systems for yachts, yacht clubs, hotels and institutions. An engineer will call, upon request, to discuss your requirements.

SALON ENGINEERING SERVICE

MODERN YACHT EQUIPMENT

119 West 57th Street New York City

Catalogs Received

A number of new catalogs, which contain many new items of interest, have been published recently by various marine supply companies.

Wilcox, Crittenden & Co., of Middletown, Conn., have distributed their catalog of marine hardware and fittings, along with one containing the products of the National Marine Lamp Co., now a subsidiary of Wilcox & Crittenden.

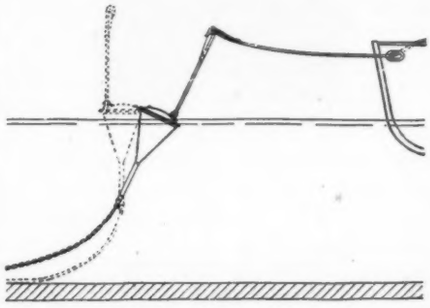
An attractive new catalog of marine instruments has been published by the Pioneer Instrument Co., of 754 Lexington Ave., Brooklyn. It contains all of the newest products of this well-known firm.

A brochure, setting forth the facilities of the seven ship repair plants of the Todd Shipyards Corporation, has been received. It gives a list of locations and size of the drydocks, together with other information on repair and emergency facilities.

Any of these catalogs will be gladly furnished by the offices of the above named firms.

Automatic Mooring Buoy Successful

The new mooring buoy, which was introduced at the Motor Boat Show by the Automatic Boat Mooring Co., of Newton Highlands, Mass., is proving successful and popular in actual use on the water this summer. Its simple and automatic operation makes the picking up of the mooring a certainty. The bight of the bow cable is dropped over the spindle and the buoy automatically interlocks it to the mooring. This obviates grappling for mooring buoys and makes the old task of mooring a boat an easy matter.



Automatic mooring showing bowline interlocked with mooring spindle

U. S. Motors Announces New Low-Priced Lighting Plant

The United States Motors Corporation, of Oshkosh, Wisconsin, has just announced a new, 350 watt, air-cooled lighting plant that will sell for $119. It is ideally designed for marine use, being light, compact and occupying a space only 16" by 16". It has a smooth-running 4-cycle engine and drives the generator by a positive Vee-type belt. It runs about 10 hours on one gallon of gas. Either 12- 32- or 110-volt models can be furnished.

Due to a specially arranged, compound wound generator and a positive action governor, the voltage regulation is constant. The current is steady and the lights are flickerless whether only one lamp or a full capacity load is on. The plant will light as many as fourteen 25-watt lamps.

The "U. S." line also includes a complete line of larger models — ranging from 350 to 15 K. W.

NOW! SAVE ½% ON INSURANCE

Underwriters Approve C-O-TWO System

THE perfect record of success in extinguishing boat fires which the C-O-TWO System holds, has been recognized by marine insurance underwriters. Now all gasoline yachts fitted with a built in C-O-TWO System are subject to a reduction of ⅛ to ⅛ of 1% depending upon the age of your craft, and the saving will pay for the installation in a short time.

Simplicity of installation and operation with no exposed parts — just a pull on the control releases the gas and the most terrific gasoline or oil blaze is instantly extinguished. Recent installations of the C-O-TWO Systems; — Fifteen Coast Guard boats, six Consolidated Shipbuilding Company yachts and three large Henry J. Gielow designed yachts built by Bath Iron Works — There's a reason!

Write your nearest dealer for full information.

3700 EAST 9TH STREET
LOS ANGELES

C-O-TWO FIRE EQUIPMENT CO.

347 MADISON AVE.
NEW YORK

Write your nearest dealer

NEW YORK, N. Y. E. J. Willis Co. 85 Chambers St.
NEW YORK, N. Y. Smith-Meeker 123 Liberty St.
BOSTON, MASS. Walter H. Moreton Corp. 1043-5 Commonwealth Ave.
WILMINGTON, CALIF. Ets-Hokin & Galvan 218 Avalon Blvd.
DETROIT, MICH. Corsair Boat Co. 1030 Buhl Bldg.
SAN DIEGO, CALIF. Clem Stose 2nd & C Sts.
NEW ORLEANS, LA. Arthur Duvic's Sons 122 Charters St.
SAN FRANCISCO Ets-Hokin & Galvan 181 Stewart St.
NORFOLK, VA. M. A. Stewart 300 Bankers Trust Bldg.
VANCOUVER, B. C. Boeing Aircraft, Ltd. 1927 W. Georgia St.
SEATTLE, WASH. Pacific Marine Supply 1223 Western Ave.
PORTLAND, ORE. C-O-TWO Sales Co. 1024 American Bank Bldg.

Poland Water

The World's Foremost Natural Mineral Water

The desirability of having a liberal supply of bottled Natural Mineral Water on board at all times is apparent.

POLAND WATER is always the same — pure and healthful.

Available from leading supply houses in cases and in cartons of 6 or 12 bottles to suit the convenience of yachtsmen — magnums, bottles and half bottles.

OUR NEW MEMBER *of the* FAMILY

"NEW JERSEY"

No. 339

Yacht Sea Green
Anti-Fouling Composition

The Latest and Most Powerful Paint Perfected for the Protection of Yacht Bottoms

SPECIFICATIONS:

COLOR — Light Sea Green

FINISH — Gloss

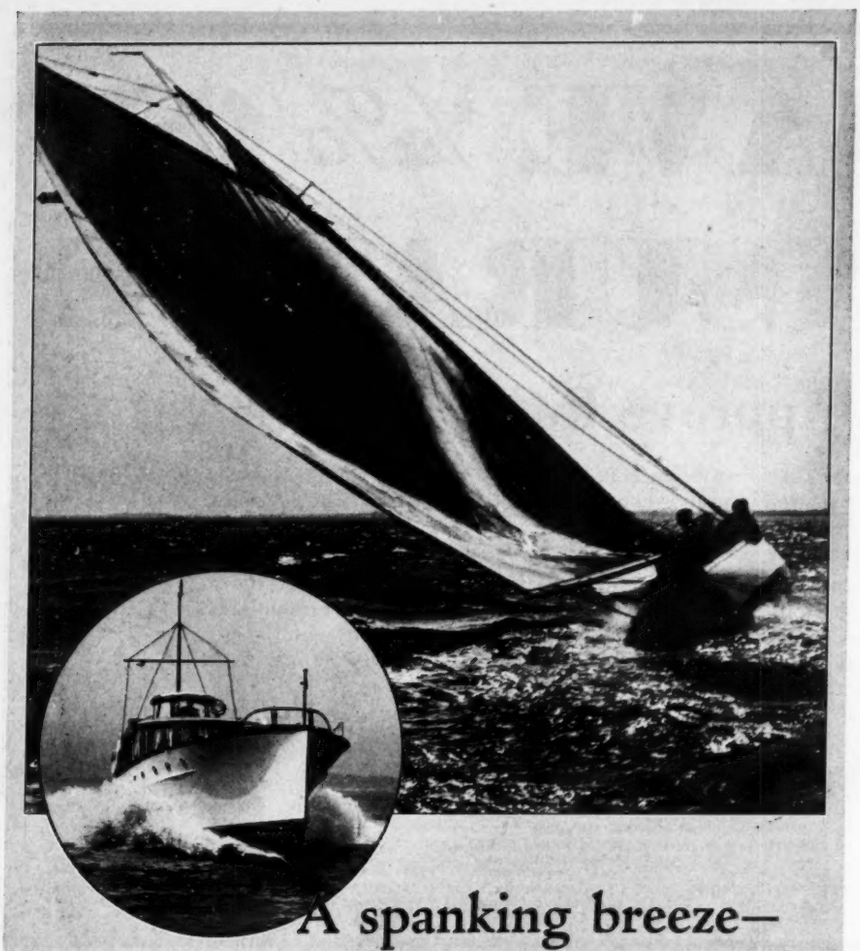
SCRAPING — Not necessary. Wears down evenly. Saves labor charges

REPAINTING — Hand scrub brush, to remove slime, and apply paint as found in the can

RESULTS — A perfect racing bottom, well protected against worms and barnacles.

Send for color card and prices

NEW JERSEY PAINT WORKS
Harry Louderbough, Inc.
Wayne and Fremont Streets
JERSEY CITY, NEW JERSEY



A spanking breeze—
a choppy sea—lee rail awash.

—and a camera that captures all the thrill in a thousandth of a second! That's Graflex!

Great photographs are the windows through which past pleasures are seen again . . . lived again.

This summer, be sure there's a Graflex aboard your boat! Races and regattas . . . water sports . . . week end cruises—

Nothing moves too fast for the super-swift Graflex shutter.

Graflex pictures live. For Art . . . for Action . . . for scenes of rare beauty, portraits that capture real personality . . . Graflex. Greater certainty of focus, greater artistry of composition. When it's in focus in your *Graflex* finder, it's in focus on your film.

The CAMERA For More *Interesting* Pictures

GRAFLEX

FOLMER GRAFLEX CORP. . . . ROCHESTER. N.Y.

FOLMER GRAFLEX CORPORATION, *Dept. 56*, ROCHESTER, N. Y.
I want to see the booklet that tells how more interesting pictures are being made. Please send "Why a Graflex?" to name and address written on margin of this page.

Standardized Marine Engine Oil

Announcement was made recently by the Enterprise Oil Company, Inc., Buffalo, manufacturers of Duplex Marine Engine Oil, that several more of the industry's prominent boat and engine builders had standardized on Duplex Marine Engine Oil, and are carrying permanent Duplex instruction plates, among them Chris-Craft, Dee Wite, Dodge, Faybow, Gar Wood, Hadley, Ludington, Sea Lyon craft and the Sea Eagle, a Mullins steel boat. The Brennan engine for reverse gear lubrication — like the Ludington "stern drive" — specifies Duplex Hypoid Compound as the approved lubricant, this product also being made by the manufacturers of Duplex Marine Engine Oil.

The addition of Brennan and Red Wing to the other marine engine builders specifying Duplex Marine Engine Oil, *viz.*, Chris-Craft, Gar Wood, Kermath, Lodge, Murray & Tregurtha, Niagara, Scripps, Sterling and United States Motors, means that better than 85 per cent of all builders of standardized marine engines in the United States are specifying this product.

The Dunphy Boat Company Builds New Plant

The Dunphy Boat Company, of Eau Claire, Wisconsin, is building a highly modern and efficient boat plant, which will triple the production capacity of the present plant. The increased capacity is needed to meet the demand for Dunphy boats along the eastern seaboard.

The great demand for the new $1650 Dunphy Cruiser and the New Water Phaeton has prompted the directors of the Dunphy Company to revise their plans so that the new factory will triple instead of double the capacity of their plant, as originally planned

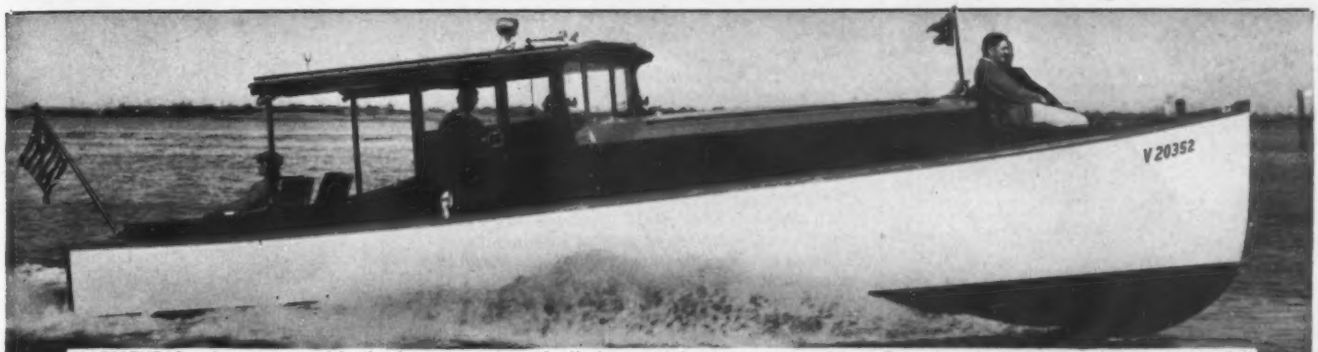
The Dunphy Boat Manufacturing Company is represented in New York City by the Motor Boat Mart of New York, located at 1860 Broadway.

Driving easily through a choppy sea. An a.c.f. 30-foot cabin cruiser

An a.c.f. Tender for "Bob Kat"

Robert B. Meyer of Locust Valley, L. I., owner of the new six-metre yacht, *Bob Kat*, recently returned from a successful series of international races at Bermuda, has purchased a new motor yacht built by the American Car and Foundry Company. This a.c.f. cruiser which is to be used as a tender for the *Bob Kat* has been especially fitted for the purpose in anticipation of the yacht racing season on Long Island Sound. Mr. Meyer has named his new a.c.f. boat *Katnip II*.

More and still more MARBLEHEADS are being bought



MARBLEHEAD sales were good in the boom year of 1929: far greater in 1930: and now, in strenuous 1931, THREE MARBLEHEADS ARE BEING BOUGHT TO EVERY ONE LAST YEAR! Significant facts!

Why this tremendous popularity? Because the MARBLEHEAD is the greatest cruiser value of all time and boatmen are quick to realize it. MARBLEHEADS are skillfully designed and superbly built and finished. They are planned for the owner's comfort, convenience and safety. And they are correctly priced and delivered complete — no extras to buy.

Our plant in Maine has been running full in all departments since January to supply our dealers with enough boats to meet this intelligent and increasing preference for MARBLEHEADS.

Prices start at $4975

MARBLEHEAD

BUILT BY

STAPLES, JOHNSON & CO. BIDDEFORD, MAINE

Inspect MARBLEHEADS at these agencies: Dodge Boat Distributors, Inc., 21 West 46th St., New York City; New York Boat Service Corp., Clason Point, New York City; F. D. Homan, Amityville, Long Island, N. Y.; Atlantic Radio and Marine Co., Inc., Boston, Mass.; Flood Gate Motor Boat Sales Agency, Inc., Washington, D. C.; Rowayton Marine Works, Rowayton, Conn.; C. P. Amory, Newport News, Va.; Frank Andrews Boat Livery, Detroit, Mich.; Hubert S. Johnson, Bay Head, N. J.; Albert G. Frost, Portland, Maine; J. Frank Knorr, Inc., Miami, Florida; Alker-Donovan Co., Inc., New Orleans, La.; Sebo Boat Co., Houston, Texas; Norman I. Black, Hamilton, Bermuda.

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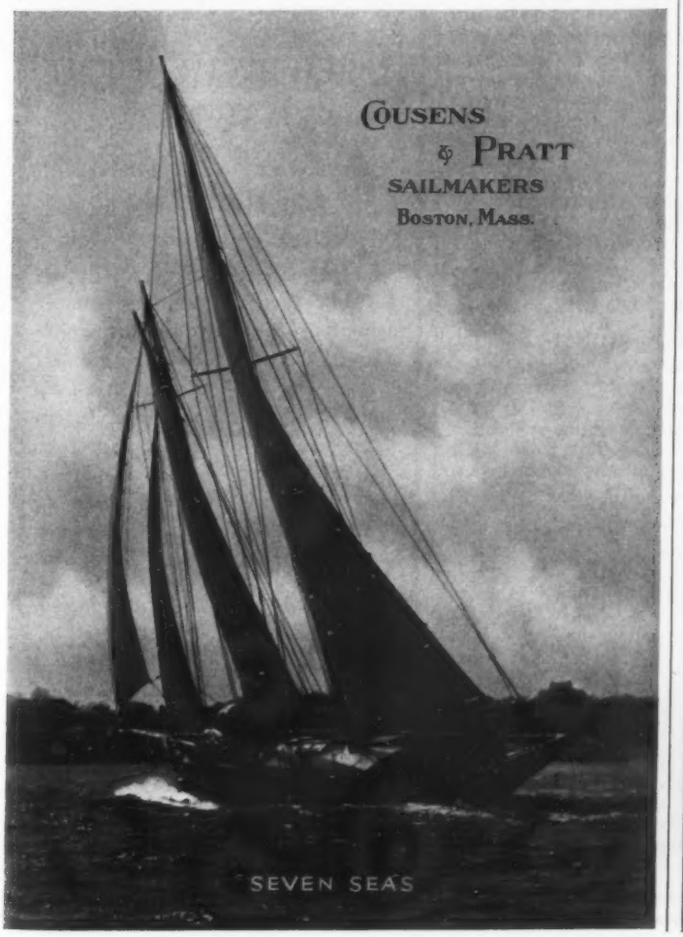

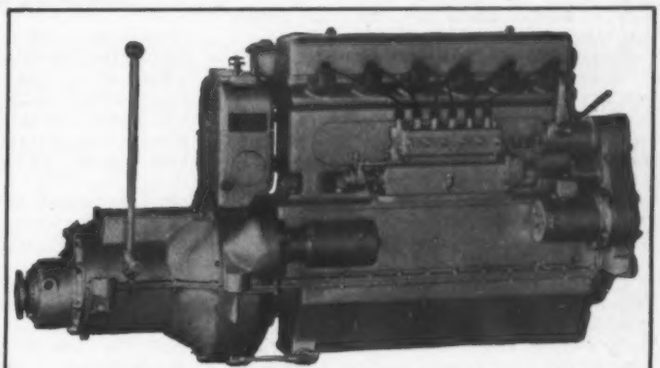

Six-cylinder 3½ x 6. Four-cylinder 3½ x 6. Furnished with reverse gear; also reduction gear if required and built right and left hand for twin-screw installations.

Hill-Diesel—A Paying Investment —*and How*

BY MAKING YOUR BOAT A REAL SAFE ONE
(eliminating FIRE AND EXPLOSION HAZARDS)
BY PROLONGING THE LIFE OF YOUR BOAT
(eliminating VIBRATION MENACE)
BY INCREASING YOUR CRUISING RADIUS
(Fuel oil mileage 3 times more than GASOLINE)
BY REDUCING YOUR FUEL BILLS
(about 80%)

Plus the above! You will have
THE UTMOST IN DEPENDABLE POWER

HILL-DIESEL ENGINE CO.

Factory: **Lansing, Mich.**

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